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ABSTRACT

These four learning guides comprise one of four packages in the Workplace Literacy Teacher Training series that provides information and skills necessary for the user to become a successful instructor in an effective workplace literacy program. The guides in this package focus on tasks required to support the program as it is implemented. Each guide consists of these Lanka, India, Colombia, Brazil, Malaysia, and the United Kingdom (UK). meet the objectives, readings followed by questions for reflection, application activity, evaluation guidelines, and annotated bibliography. The first guide addresses management of instruction, presenting strategies for planning and managing small group learning to deal with a multilevel classroom and to develop low-level literacy as well as higher-order thinking skills. The second guide reviews the purposes of learner assessment, presents specific techniques and devices, and highlights techniques most appropriate for workplace literacy programs: workplace scenarios, portfolios, and performance tests. The third guide focuses on how to develop an individualized Workplace Development Plan and describes effective learning activities and instructional strategies, including use of learner-generated materials. The essential elements of tutoring and mentoring and their benefits to the workplace literacy program are addressed in the fourth guide. It provides specific guidelines for planning, initiating, and managing a tutoring/mentoring program. Contains a total of 35 references. (YLB)

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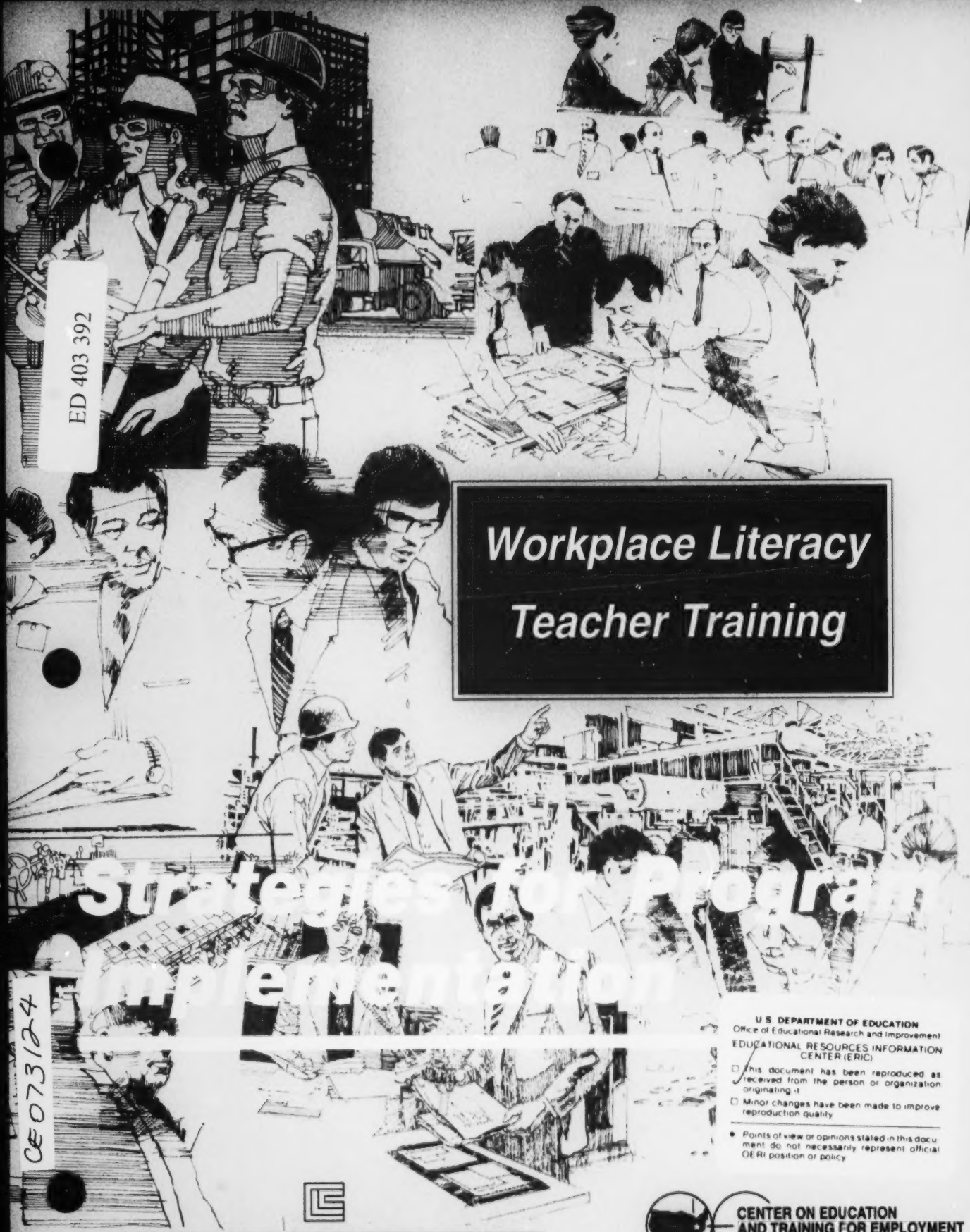
Workplace Literacy Teacher Training



Instructional Management Performance Assessment Individualization Strategies Tutoring/Mentoring

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Workplace Literacy Teacher Training: Strategies for Program Implementation

This package contains the following learning guides:

- *Manage Instruction*
- *Assess Learner Performance*
- *Employ Strategies for Individualizing Instruction*
- *Facilitate Tutoring/Mentoring in the Workplace*

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Preface

When the College of Lake County workplace literacy program staff approached us about the possibility of developing some teacher training materials to enhance their programming, the timing was ideal. At the Center on Education and Training for Employment (CETE), we were just completing our second major multi-year National Workplace Literacy Program grant, complemented by ongoing work with a series of clients over the same period of years on refining systematic processes for assisting work-based learning.

A salient driving force—indeed, evolving into our passion—was the vision of how teachers trained in the synergistically combined processes of problem-based learning, metacognitive reflection, and learner generation of job-context curriculum could become the instruments of learners' capitalizing on their own expertise and potential. We were motivated to generalize beyond the College of Lake County's specific needs to capture this vision.

The proposed learning guides were divided up among seasoned staff for draft development. Then they were subjected to intensive review and enhancement by each of the content advisors (Johanna DeStefano, Susan Imel, and myself)—three individuals who had joined their diverse perspectives successfully over the years, evolving into a team with considerable expertise in workplace learning. Finally, the consistency and coherence of the materials was crafted by Lois Harrington with an unerring sense of the components of curriculum.

It was my pleasure to coordinate the contributions. I would like to express my appreciation on behalf of CETE to the College of Lake County for the farsighted thinking of its workplace literacy staff and for giving us the opportunity to stop and take stock of what we have learned for the purpose of sharing it.

Sandra G. Pritz
Curriculum Project Director
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Foreword

Ninety-five percent of the instructors in the College of Lake County's Community Education and Economic Development Division are part-time instructors. It is from this division pool of instructors that the National Workplace Literacy Program draws. Many of them have long-time teaching experience in classroom-based adult education—but usually no experience in the workplace setting or with outcome-based instruction. Thus, staff development for part-time instructors is an ongoing process. Even though an orientation to the program and a series of workshops effectively address some of their needs, more options for gaining workplace education knowledge is necessary to help the instructors make a successful transition into the workplace. Supplementing the more "traditional" forms of staff development with a series of self-study teacher training materials was the plan.

One of the main objectives of the National Workplace Literacy grant at the College of Lake County (CLC) is to provide adequate and appropriate staff development for workplace literacy instructors. In order to fulfill this objective, CLC worked in conjunction with the Center on Education and Training for Employment at The Ohio State University to develop this plan and offer an effective alternative approach to workplace literacy staff development.

The materials have been piloted by the CLC workplace instructors, and the feedback has been positive concerning their coverage of workplace content and context as well as their provision for a variety of professional development options. This model has allowed the instructors to enhance their professional skills and knowledge, to share their philosophies and ideas with grant staff and workplace personnel, to gain sufficient exposure to resources, and to improve the quality of instruction.

The National Workplace Literacy Program hopes that by making these packages available, other educational programs and/or businesses will be able to utilize and adapt the materials to fit their workplace literacy programs and to foster the growth of their instructors as professionals in a new and exciting field.

Mary Kay Gee, Director
National Workplace Literacy Project
College of Lake County

Introduction

Once a program has been planned and the curriculum and materials are in place, there are numerous tasks required to support that program as it is implemented. Those tasks are the focus of the guides in this package.

The first learning guide addresses the management of instruction. How do you manage instruction when you are dealing with a multilevel classroom and you wish to develop not just low-level literacy but the higher-order thinking skills so valued in today's world of work? The answer is, at least in part, to use various grouping patterns in instruction. Strategies for planning and managing small group learning are presented in depth.

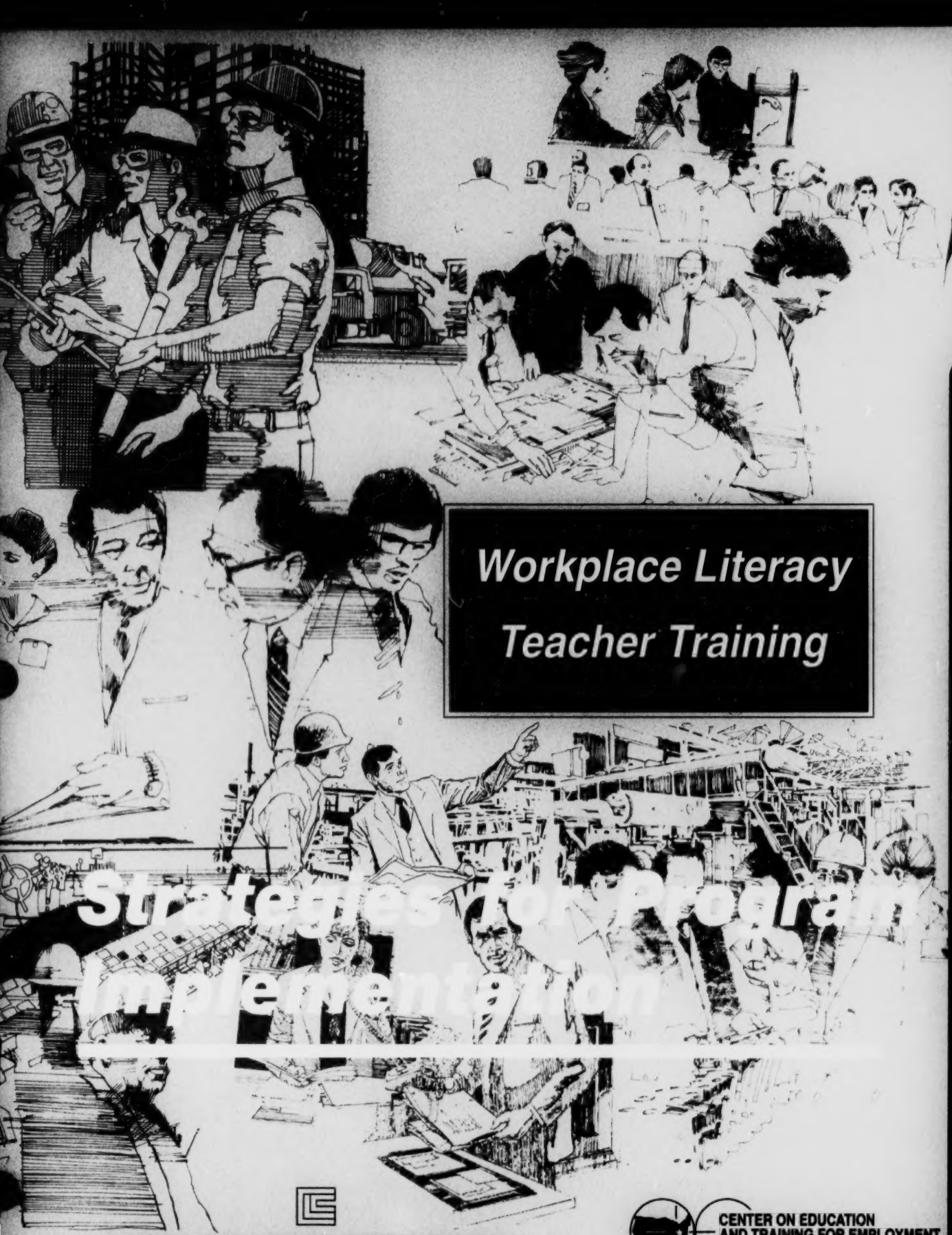
The second guide covers the tools you need to assess learner performance. The multiple purposes of assessment are reviewed, and specific techniques and devices for assessment are presented. Particular attention is paid to those techniques most appropriate for the learning environment desired in workplace literacy programs: workplace scenarios, portfolios, and performance tests.

The third learning guide looks at another tool for dealing with the multilevel classroom: individualizing instruction. Readings focus on how to develop an individualized Workplace Development Plan (WDP) using information about learning styles to devise appropriate learning activities to include. Particularly effective learning activities and instructional strategies, including the use of learner-generated materials, are described in detail.

Two other highly effective methods for supporting skill development in a multilevel classroom are tutoring and mentoring. The fourth learning guide discusses the essential elements of each of these approaches and their benefits to the workplace literacy program. Specific guidelines for planning, initiating, and managing a tutoring/mentoring program are provided.

Other packages in the Workplace Literacy Teacher Training series provide the additional information and skills you need to become a successful instructor in an effective workplace literacy program:

- *The Context* package looks at the unique environment and culture involved in providing education and training to adults in a workplace. The three learning guides in the package focus first on the workplace itself, then on the worker as learner, and finally on the instructor.
- The four learning guides in *The Foundations* package address the identification of business and industry needs related to the workplace literacy program, development of training plans and learning objectives, improvement of teaching effectiveness, and development of instructional resources appropriate for the workplace.
- The four learning guides in the *Strategies for Instruction* package focus on the skills at the heart of such programs—reading, communication, mathematics, and English as a second language—and present effective strategies for teaching these skills in the workplace context.



Workplace Literacy Teacher Training

Strategies for Program Implementation

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Manage Instruction

Introduction

Managing groups of adult learners in a workplace literacy program may present you, the instructor, with new challenges. Learners will possess different levels of knowledge coming into the program. For example, some learners will undoubtedly be very knowledgeable about the work they are doing but may need to brush up on basic skills required to learn new job tasks. Other learners may have insufficient basic skills to perform satisfactorily in their current job. In addition, learners may have preferences for different ways of learning. Some learners comprehend more quickly or deeply from demonstrations than lectures, from creating than discussion; others are just the opposite. Making effective use of the various strengths workers bring to the learning setting is one of the keys of managing instruction.

A metacognitive approach to instruction, which helps learners to consider their own thinking and learning, is supportive of this philosophy. Furthermore, as higher order thinking skills are increasingly needed in the workplace, this approach provides practice in what will be expected.

Group size has an impact on learning. Large groups are useful for some kinds of instruction; however, learners sometimes benefit more from participating in small groups, pairs, or individualized learning situations. In addition, these conditions are more likely to reflect how learners interact in the workplace itself. In many workplaces, workers are now assigned to teams or small groups that are responsible for planning and implementing work assignments.

By experiencing learning in a variety of group sizes, learners are presented with a greater opportunity to model the situations they encounter in the workplace. Groups learning activities can be tailored to address the specific job-related tasks. Also, workers can be paired or grouped in ways that simulate the workplace.

Group size can also change the role of the instructor from being the "expert" to being a "facilitator." By taking on a facilitative role, the instructor helps learners assume more responsibility for their own learning as well as improve their critical thinking skills. When the teacher becomes a facilitator, the learning setting is more likely to mirror the workplace, where workers are being expected to assume greater and greater responsibility and engage in problem solving.

As you move through this learning guide, think about ways you can vary both group size and learning activities to provide your workplace learners with the optimal opportunity for learning. Other useful information that can be used in managing instruction is contained in two other guides, *Employ Strategies for Individualizing Instruction* and *Improve Teaching Effectiveness Through Planning and Evaluation*.

Objectives

- Explain the importance of higher-order thinking skills and methods for measuring their achievement.
- Identify the uses of various grouping strategies in workplace literacy instruction.
- Describe the characteristics of effective small groups and strategies for implementing their use in a workplace literacy program.
- Develop strategies for managing instruction that incorporate varying group sizes, shifting of teacher/learner roles to place more responsibility on the learner, and teaching of critical thinking skills.

To Help You Meet the Objectives

- Study the material that follows:

  Reading 1: Higher Order Thinking Skills in Vocational Education

  Reading 2: Coping with the Multi-Level Classroom

  Reading 3: Small Group Learning: How Getting Started

- Reflect on the questions posed after each reading. The questions are designed to help you clarify and extract meaning from the reading that can be helpfully applied. There are benefits to both individual and interactive reflection—
  - ~ As an individual, consider how you would apply the information either in the program to which you are already assigned or in a program to which you might be assigned.
  - ~ If you are able to discuss these questions with other instructors or program staff, try to get other perspectives on the reading. Compare notes on the ways the ideas can be and have been applied in their experience. If the experiences differ, help each other probe the possible reasons for the differences.
- Complete the Application Activity.
- Evaluate your own competencies using the Evaluation Guidelines. This is an opportunity to assess your own learning and identify any areas in which you feel less competent or confident. If indicated or desired, take advantage of the opportunity to review the related material in the Annotated Bibliography. You may also want to seek out a more experienced person who can be a mentor to you on this topic, helping you assess your competency and acting as a resource person.
- Ask your reviewer to evaluate your skills also. Be sure to note the input from the reviewer that can provide the basis for your further competency building.

To Help the Reviewer Guide and Evaluate Learner Performance

These learning guides have been designed to allow for maximum flexibility of use. For those individuals using them for professional development (without ties to a formal program), the guides allow for self-study. Such use may, however, limit the opportunity for interaction and practice in a group setting. Therefore, if learners are completing these guides in a group setting under your direction, it is strongly recommended that you identify such opportunities and capitalize upon them.

Reflection questions at the end of each Reading and an Application Activity and Evaluation Guidelines at the end of each learning guide provide opportunities for you, as a reviewer, to monitor learner progress and evaluate learner performance on the workplace literacy knowledge and skills being developed. However, your expectations should be based somewhat on the learner's background (e.g., previous instructional experience) and the learner's progress in the program. Individuals with previous experience as instructors in workplace literacy programs should be expected to extend their thinking and activities beyond the level expected of those without such experience.

For example, if the learner is asked to "define company culture," individuals ***without*** instructional experience would be expected to respond solely on the basis of their reflections concerning the readings provided within the guide. The responses expected of individuals with instructional experience, however, should go beyond the readings, incorporating their real-world experiences as well. Likewise, as individuals complete more and more of the learning guides, their work should reflect that progress. Knowledge and skills gained in earlier guides should be ***integrated*** into their reflections and activities as they work through later guides.

Flexibility can also be provided concerning how the learner will demonstrate competency. At a minimum, the learner should submit ***written*** descriptions, definitions, and explanations to demonstrate successful completion of the Application Activity. These should be evaluated—by both you and the learner—using the criteria provided in the Evaluation Guidelines. If feasible, however, you should also arrange to meet with the learner to discuss his or her written documentation. At that time, you could also pose hypothetical or actual situations related to the skill criteria and ask the learner how he or she would handle those situations. Another possibility would be to ask individuals to perform the skill as part of a presentation or demonstration to others in the class or group.

It is also desirable that, whenever possible, you and the learner identify opportunities for expanding on the learning experiences presented in the guide—ways for the learner to apply the learning more deeply and broadly. The question, "What plans do you have for learning more about the skill covered in this guide?" could well be a standard one. In many cases, the learner can use his or her work in the Application Activity as a building block for further exploration.

In summary, the learning situation is not one in which strict criterion-referenced standards based on percentage attainment or mastery levels are suitable, nor would one mode of demonstration be feasible—or appropriate—for everyone. You and the learner should discuss and reach agreement in advance on the level of achievement expected and mode of demonstration to be used so as to create the optimal learning experience. The intent is for the learner's professional development to be competency-based, rigorous, and designed to motivate further learning, yet sensibly adapted to the situation and to the learner's needs and abilities. Hopefully, the learners will carry this flexible philosophy and approach into their own workplace literacy programs.

HIGHER ORDER THINKING SKILLS IN VOCATIONAL EDUCATION
ERIC Digest No. 127 by S. Kerka
Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, 1992 (ED 350 487)

From the movement to integrate vocational and academic education to the proposals of the Secretary's Commission on Achieving Necessary Skills (SCANS 1991) and others, the message is clear. Higher order thinking skills are essential and must be taught. Recent findings of cognitive research provide a better understanding of how people learn and how they solve problems, from which new teaching strategies are emerging. This *ERIC Digest* defines higher order skills, presents arguments for developing thinking skills in vocational education and describes strategies and applications in vocational settings.

Why Vocational Education?

The ability to think creatively, make decisions, solve problems, visualize, reason, analyze, interpret, and know how to learn—these skills are most often mentioned in definitions of critical thinking. Characteristics of critical thinkers are perseverance, flexibility, metacognition, transfer of knowledge, problem orientation, open mindedness, use of quality standards, and independence (Lee 1989), a list that resembles many descriptions of the desirable qualities of the future work force. As the nature of work changes and people live and work longer, it is clear that the skills needed for a "40 to 50 year work life" (*Think about It, Too!* 1988) are the capacities to learn continuously through thinking and reasoning, problem solving, decision making, and interpersonal competence. These skills are not only critical to work; they are also needed to deal with the increasingly complex spheres of family, community, and society.

Why should vocational education be involved in developing thinking skills? It is often assumed that this is the role of academic education. However, Thomas (1992) cites the following arguments for vocational education's role: (1) occupations are becoming more reliant on cognitive capacities; (2) the changing work environment requires flexibility and adaptability to changing conditions; and (3) vocational education provides a real-world context for cognitive development. "One of the ways to prepare future employees is to teach students ***how*** to think instead of ***what*** to think" (Chalupa 1992, p. 21). As the SCANS (1991) report notes, this does not imply a narrow work-focused education. Rather, vocational education is a vehicle for developing the cognitive skills needed for "a productive, full, and satisfying life" (p. vi).

Cognitive research demonstrates that (1) learning is not automatically transferred to new settings; (2) context is critical to understanding; (3) passive learning does not develop cognitive management skills; and (4) higher order learning is not a change in behavior but the construction of meaning from experience (Johnson and Thomas 1992, Thomas 1992). Different teaching strategies, alternative assessment methods, and new ways of teacher preparation are needed.

What Strategies Develop These Skills?

Thomas (1992) identifies three types of cognitive theories upon which teaching strategies can be based. ***Information processing theory*** explains how the mind takes in information. ***Knowledge structure theories*** depict how knowledge is represented and organized in the mind. ***Social history theory*** explains the vital role of cultural context in the development of individual thinking. Together, these three perspectives offer a comprehensive view of cognition. In this view, learning is characterized as an active process in which the learner constructs knowledge as a result of interaction with the physical and social environment. Learning is moving from basic skills and pure facts to linking new information with prior knowledge; from relying on a single authority to recognizing multiple sources of knowledge; from novice-like to expert-like problem solving.

Johnson and Thomas (1992) present five general principles and related teaching methods that integrate aspects of all three perspectives:

1. ***Help students organize their knowledge.*** External memory aids such as concept maps (visual representations of concepts and their relationships) ease the information overload on working memory.
2. ***Build on what students already know.*** Advance organizers such as rules, analogies, or concrete instances help students recognize the similarities between new information and previously acquired knowledge.
3. ***Facilitate information processing.*** Teachers model problem solving, demonstrating their thought processes, strategy selection, and response to mistakes.
4. ***Facilitate deep thinking through elaboration.*** Cooperative learning techniques such as peer tutoring or paired problem solving (in which one student thinks aloud during the process of solving a problem) make students observe and modify their own thinking processes.
5. ***Make thinking processes explicit.*** In reciprocal teaching, the teacher models desired metacognitive processes by reading a paragraph, asking questions, summarizing, and predicting what would happen next in the text. Students gradually take on the teacher's role.

These strategies demonstrate that the teacher's role in developing thinking skills differs from traditional instruction. One metaphor for this new role is "a guide on the side rather than a sage on the stage" (Thomas 1992, p. 54). The following ***teacher behaviors*** promote cognitive development (Chalupa 1992, Lee 1989, Thomas 1992):

- Requiring justification for ideas and probing for reasoning strategies
- Confronting students with alternatives and thought-provoking questions
- Asking open-ended questions
- Requiring students to be accountable for class discussion
- Serving as a master of apprentices rather than a teacher of students
- Using Socratic discussion techniques

Classroom environments that support higher order thinking have the following characteristics (Stasz et al. 1990, Thomas 1992):

- Reflections of real-life situations and contexts
- Collaboration among teachers, disciplines, students
- Encouragement of curiosity, exploration, and investigation
- Responsibility for learning vested in the learner
- Failure viewed as a learning opportunity
- Acknowledgement of effort, not just performance

Chalupa (1992) describes inservice training that helps teachers remodel lesson plans and incorporate knowledge of learning styles in cognitive development. This approach to lesson development involves identifying the following: What is essential for students to know? What is nice to know? What is "fluff"? Learning and teaching styles are assessed by such instruments as the Myers-Briggs Type Indicator and Watson-Glaser Critical Thinking Appraisal. Higher order thinking objectives specify student performance that requires application, analysis, synthesis, and evaluation of information (Miller 1990).

Assessing the achievement of higher order thinking skills is a challenge because the qualities of learners' thinking and knowledge must be observed, not just their results or products (Thomas 1992). Existing right and wrong answer approaches to testing are clearly inadequate. In fact, "assessment" rather than "testing" is recommended (SCANS 1991, Thomas 1992). New forms of evaluation being developed include the Tailored Response Test, stimulated recall, scenario analysis, and concept mapping. Existing methods such as true/false, multiple choice, and essay can be adapted by having students indicate why an answer is false, asking how two things are similar or different, or requiring evaluation or critique (Chalupa 1992). Scoring can involve giving credit for reasoning (Heyman and Daly 1992).

How Are These Skills Developed in Vocational Education?

- In technology education, the Enterprise Project requires students to design, test, manufacture, and market a product they select. They must use creativity, problem solving, and logic to understand the processes of bringing a product to market and the potential social and environmental impacts (*Think about It, Too!* 1988).
- Home economics students can use cooperative learning, debate, and problem solving to explore how to manage the dual role of homemaker and wage earner (ibid.).
- Agriculture students receive background information on chemical fertilizers and a demonstration by an instructor, extension agent, farmer, or sales representative. Student groups then conduct soil analysis, develop fertilizer application plans, present results, and discuss ethical and soil conservation issues (Haynes and Schroeder 1989).
- Cooperative education students participate in a seminar to analyze and evaluate their internship experiences by keeping weekly logs of facts, activities, and incidents and analyzing them using Bloom's taxonomy of cognitive processes. Students synthesize meaning from their daily work experiences (applying theory to real life), explore their relationship to work and society, and learn about career decision making (Stephenson-Miles 1990).
- Examples of advance organizers in technology education include the analogy of the workings of a flashlight to introduce the concept of electronic circuits, a bicycle to help students understand mechanical advantage and gear ratios, and the human heart as an example of a hydraulic system.
- In revising lesson plans to include higher order components, a traditional lesson objective (writing a résumé and application letter), activities (discuss characteristics, create résumé), and test questions (list categories of information in a résumé and application letter) become—in a critical thinking lesson plan—objectives (examine how the importance of categories of information changes over time, evaluate sample résumés and letters), activities (discuss why one would or would not select a hypothetical applicant), and test questions (given two résumés and letters, select a candidate and justify the reasons) (Chalupa 1992).
- Miller (1990) transforms a typical lesson on nutrients and nutrient deficiency (list and describe classes of nutrients and symptoms of deficiency, read chapter, observe cases of deficiencies, explain three functions of water in the body) into a higher-order thinking lesson involving discussion of how components of a balanced diet are determined, diagnosis of symptoms of nutrient deficiencies in a lab activity, and an open-ended test question.

Developing higher-level cognitive capacities goes beyond giving a lesson or two on thinking skills. Applying cognitive development principles in vocational curriculum and instruction builds on the strengths of vocational education to develop higher order skills needed in the spheres of work, family, community, and society.

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Reflection on Reading 1

- What are critical thinking skills?
- Why should you teach critical thinking skills in a workplace literacy program?
- How can you measure higher order thinking skills?

"COPING WITH THE MULTI-LEVEL CLASSROOM" by M. E. Helgeson
TESOL Newsletter v16/n4 (August 1982): 1, 33-35
Publication of Teachers of English to Speakers of Other Languages, Alexandria, VA

How to Modify Materials and Methods for Individualization

The usefulness of individualizing ESL instruction is well established in the literature and recognized by nearly every teacher who has tried it. Ganserhoff (1979) pointed out that individualization is a valid approach to any group of students with varied linguistic, social and/or educational backgrounds, and differing learning rates and goals, as well as to any program situation with open-entry enrollment policies or irregular student attendance due to illness, job conflicts, etc. Most adult ESL classrooms face some or all of these problems. Further, the current political climate often means less money for programs. This lack of funds regularly translates into larger, multi-level classes. At this point, individualizing is more than a good idea . . . it may be the only way to cope!

By individualizing, I'm not suggesting that each student should work alone a great percentage of the time. Certainly communication training doesn't lend itself to such an approach. Nor am I suggesting a return to the days when each student spent hours listening to taped audio-lingual drills. While A-L activities can be useful at the practice phase of learning, individualization goes far beyond that stage.

The key to effective individualized instruction is the creative use of grouping methods that allow students to work on a variety of tasks in a variety of contexts. The purpose of this article is to discuss these grouping methods and to suggest ways that the materials and activities you are currently using, as well as new ones, may lend themselves to use in an individualized setting.

The grouping strategies I find most effective are small groups, duets, and solos. ***Small groups***, identified by Sawkins (1978), usually consist of three to six students. The specific activity determines whether those groups are skill-level homogeneous or heterogeneous. Duets and solos have each been discussed by Ganserhoff (1979). ***Duets*** are pairs of students working on a single activity. ***Solos*** are activities engaged in by a lone student. As a sub-classification of solo, one can include ***solo-automated*** activities, which involve a single student working on a task that requires the use of some electronic medium (e.g., tape player, video player, Language-Master).

One should consider the phase of instruction for which each of these grouping modes is most appropriate. Escobar and McKeon (1979) have identified the four phases of learning any element of language, and therefore the logical blueprint for any ESL lesson, as follows:

Phase I. Establishing Meaning.

Phase II. Practice (including structural manipulation).

Phase III. Purposeful Student Communication (student using language for his/her own needs).

Phase IV. Review, Recombination, or Reteaching.

In the course of this discussion of the models of grouping, the particular phases in which each method is most likely to be effective will be noted.

Small Groups

According to Olmstead (cited in Sawkins 1978), effective small group instruction is predicated on the acceptance of three premises:

1. Groups of "reasonably capable" adults are able to learn independently, given the cooperation of the teacher.
2. Teacher control of all discussion input is unnecessary for the creation of a valid learning experience.
3. Maximum learning is contingent upon groups accepting responsibility for their own progress, thus becoming less dependent on the teacher.

The primary advantage of small group instruction is a dramatic increase in student interaction and communication. This increase is both quantitative due to the increase in the time each student is speaking, and qualitative arising from the necessity of being understood by peers. This shift from a teacher-centered model also leads students becoming comfortable offering ideas and suggestions without feeling that they are being disrespectful to the teacher.

The optimal size of a small group is determined by the nature of the educational task in which the group will be engaged. For example, Verschelden and Harbers (1976) suggested that when students are grouped to provide skill-level homogeneity, beginning level students should rarely work in groups larger than three.

In addition to skill-level, several other criteria may be used in determining the makeup of a group for a particular task. Among these factors include sex, cultural background, and individual personality conflicts/friendships. Sawkins (1978) noted that a teacher with several students who tend to monopolize discussions may wish to place those students in one group, thereby requiring them to share the available time. This will also allow the less verbal students more opportunity to participate. The nature of the group task may well determine the selection criteria. The characters in a roleplay, for example, may determine the age and sex makeup of the group. Discussion of issues and values are frequently more exciting if group members come from a variety of cultural backgrounds. Long (1977) pointed out that many groups form naturally due to respect, friendships, and dislikes among the members.

Since most teachers have their classes engage in various large group activities, implementing a small group task often requires only the identification of a way to make the teacher less essential in some or all parts of the activity. For example, you may wish to introduce an element of language to the whole class prior to dividing the students into small groups. In breaking up the large group, the students may be assigned to groups according to their skill level and then given a task that requires competency at their present level. A student who has mastered the skill may be assigned to function as the group leader. This allows you to circulate among the groups offering suggestions and evaluating progress. In tasks calling for specific correct results, write out basic instructions and answer keys and give these to the group leaders, who take responsibility for group self-correction.

While the variety of activities available make any grouping strategy possible for any phase of instruction, the interactive nature of small groups makes (II) Practice and (III) Purposeful Student Communication the most relevant phases of learning for this grouping mode.

While students are working in small groups, the teacher should remember that the objective is the process as much as the end product. You won't catch all the errors, but the vast increase in student "talk-time" seems more than a fair trade-off.

Duets

Duets are activities in which two students work together on a specific task. As with small groups, a variety of considerations are involved in duet grouping. Byers (cited in Olsen 1980, p. 9) encouraged frequent regrouping of duets stating that—

> The frequent changing of partners is based on the idea that it is better to be able to communicate effectively with many different partners than with only a few partners who are close friends. The frequent changing of partners produces useful results. Some learners catch on . . . very quickly; others are less quick to catch on to directions. With changing partners, the quicker learners soon teach the slower learners how to play the game.

Nabokov and Ramirez (1979) identified four modes of peer-mediated (duet) instruction:

1. ***Tutorial.*** In this mode, a higher level student helps a lower level one. This strategy serves to solidify the knowledge of the tutor while the lower level learner gains the educational benefits of personalized instruction.
2. ***Instructional.*** In this mode, the teacher identifies a series of skills that the students need to learn. One student is assigned the task of providing instruction in a skill which s/he has mastered. Students work through this series of peer-instructors (i.e., tutors) until they are qualified to function in that role.
3. ***Mechanical.*** A student monitors the responses of another student on predetermined questions. The monitoring student simply identifies the responses as correct or incorrect and does not engage in instruction.
4. ***Transactional.*** Two students at equal skill levels engage in a problem-solving activity requiring them to pool their knowledge. This mode facilitates the use of spontaneous, original language.

Implementing the tutorial, instructional, and mechanical modes simply requires that the teacher gives one student the teacher's guide or an answer key for an activity. Transactional duet activities are often most successful when students are given tasks that are open-ended and do not have a specific correct or incorrect response (e.g., the task of identifying the pros and cons of a given social issue). Such activities often encourage fiery discussions involving a great deal of communication.

One of the most exciting and useful types of transactional duet activity is the dyad. Identified by Olsen (1980), a *dyad* is "any group of two students working on a specified task in which one student has different information than the other." Two roles exist within any dyad. These roles are referred to as *monitor* and *performer*. Throughout the dyadic experience, the members exchange roles. Many classroom activities may be adapted for use in a dyadic setting. Olsen went on to suggest the following procedure for adapting materials to the dyadic mode:

1. Make the exercise twice as long as usual.
2. Provide at least two items (or a multiple of two) for each skill covered.
3. Divide the exercises into two parts, one for each member of the dyad.
4. Alternate the cues and answers to facilitate the shift between the monitor and performer roles.

Because the tutorial and instructional types of duet activity feature a student who has mastered a specific skill working with a student who has yet to achieve competency on that skill, these structure for interaction lend themselves to use at the (I) Establishing Meaning phase of instruction. The mechanical model is most likely to be helpful for evaluation, a key in the (IV) Review phase. Finally, transactional instruction, especially through dyads, is an excellent way to provide (II) Practice and (III) Purposeful Student Communication.

Solos

Solo activities are those in which a student may engage alone. When an electronic medium such as an audio or video tape or other teaching media is added, the activity is referred to as *solo-automated.*

Solo activities are not necessarily in-class activities. Finocchiaro (1974) suggests, for example, that little or no writing practice should take place in class. Solo activities are, by definition, those which may be completed without the constant assistance of the teacher or another student. Such lessons make effective homework assignments, thereby freeing class time for communicative activities which students cannot do alone.

The simplest method of transforming existing material for use in a solo context was suggested by Ganserhoff (1979). She urged teachers to cut lessons from textbooks, to rearrange and supplement them as necessary, and to place them in folders for individual student use.

Some solo activities involve giving the student incomplete data. For example, the student may receive a dialogue with one speaker's part completely or partially deleted (Taylor 1976), a cloze procedure story, or a cartoon with the characters' conversation eliminated (Rigg 1976). The student's task is to fill in the missing words or lines, based on the information given, so as to create a complete, meaningful story or dialogue.

Other solo activities give the student a complete set of information such as a paragraph or a story. The student is required to respond based on this data. The response may involve multiple-choice or short-answer comprehension questions or the writing of a particular type of question (Bright 1978).

Solo activities are not limited to paper and pencil lessons. Fitzgibbons (1980) suggested that teachers make cards with variant spellings of the same sound (e.g., /ai/ as in *night*, *eye*, and *fly*.) Students match the sounds and check the answers on the back of each card. The strip story (Gibson 1975) may be converted into a solo reading/sequencing activity by pasting a picture to the back of a reading passage. The passage is then cut into strips. When the sentences are placed in the correct sequence, the strips are turned over to reveal the complete picture. Multiple choice activities become self-correcting when each item is placed on an index card and a pencil-sized hole is punched next to each possible answer. The student puts a pencil through the hole representing the answer s/he chooses and reverses the card to reveal a circle drawn around the correct choice.

As has been noted, solo-automated activities are not limited to audio-lingual practice, although they certainly are useful for that. To move beyond A-L and thus avoid the boredom so often resulting from an excess of this approach, you can design the activities so they don't allow the student to remain passive. By including a reading and/or writing activity in a listening/speaking exercise, the student is encouraged to become involved with the lesson. This effective element (i.e., learning by doing) increases the probability of a successful learning experience. In addition, the use of tapes containing varied voices, "real" English (e.g., *gonna* rather than *going to*), and instructions for the student to stop the tape to do the writing component serve to keep the student actively participating.

A great deal of existing print material may be modified for solo-automated use by taping the instructions that would normally be given by the teacher. Stern (1972) suggested rerecording existing tapes in three versions. For the students who learn new material very quickly, much of the repetition can be deleted. Average students can use an unmodified version. Students who require a great deal of repetition and practice receive a version of the tape in which the practice section is repeated.

A wide variety of realia may be incorporated into solo-automated activities. Television and radio commercials certainly constitute a stimulus which students regularly meet outside the classroom (Hafernik and Surguine 1979). Taped class lectures can be excellent for helping students involved in academics learn to take notes (Coltharp 1969). A series of sound effects can form the basis for vocabulary identification lessons for beginning students or writing lessons for intermediate and advanced students (Hares 1978). The possibilities are limited only by the teacher's imagination and energy.

Solo activities are most likely to be useful at the (II) Practice and (IV) Review phases of learning. The addition of an automated component adds (I) Establishing Meaning to the list of phases for this mode.

Conclusions

In this article, I've suggested ways that you can modify the materials and methods you are currently using in order to individualize your ESL class. The steps will help transform your classroom into a more active, student-centered learning environment. While the effort expended, particularly in the initial stages can be immense (i.e., teaching as an aerobic activity), the payoffs are more than commensurate. Increased student skill acquisition is, of course, the primary function of individualization. However, I think you'll also find an equally valid, though less tangible result: By virtue of placing more responsibility on the student, the individualized classroom becomes a context for sharing and personal growth. And as a teacher, it's great fun.

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Reflection on Reading 2

- Why is it important to use different grouping strategies?
- In the first column below, define each of the grouping strategies listed.
- In the second column, list some ways you could effectively use each different grouping strategy in a workplace literacy program.

Grouping Strategies/Definitions	Use in Workplace Literacy Instruction
Small Group	
Tutorial Instruction	
Duet Mechanical	
Duet Transactional	
Solo	

"SMALL GROUP LEARNING: HOW"
In *More Than the Sum of the Parts:*
Using Small Group Learning in Adult Basic and Literacy Education
by S. Imel, S. Kerka, and S. Pritz, 15-25
Columbus, OH: Center on Education and Training for Employment, 1994 (ED 368 905)

This chapter provides the following information you can use to develop small groups that are functioning and effective:

- The changing role of teachers and learners
- Group process and the responsibilities of the teacher/facilitator
- Tips on creating a hospitable environment
- Strategies for facilitating small groups
- Forming groups

Simply meeting in a small group does not create an effective learning environment. Small groups often fall into one of four categories: dysfunctional (no participation from members); leaderless (no exchange of ideas); on-task (willing to talk and listen but no sharing of meaningful information); and functioning (on-task and involved). Although most groups go through several stages, the ideal is *functioning* because there is a sense of trust and an expectation that learning will occur (Cheatham and Lawson 1990).

According to Bingman et al. (1990), effective groups are—

- small in size, ranging from 5 to 15 learners;
- learner centered, adapting the curriculum to the needs and interests of learners;
- experiential, incorporating learners' experiences, skills, and ideas in the teaching;
- cooperative—learners commonly help each other and work together; and
- participatory—learners have a say in what is taught and how it is taught, rather than being passive recipients (p. 2).

Changing Roles of Teachers and Learners

> *[The teacher] is viewed as part of the family. She is our teacher, but in a different way, a leader through something you want to get out of your life.* (Bingman et al. 1990, p. 7)

The small group learning approach changes the role of the teacher. It will make you a teacher "in a different way." It will change how you interact with the learners.

> *The group learned how similarly they felt about many things, and people identified strongly with one another. My role in the discussion just about faded away . . . the most compelling worries and joys that people wanted to talk about were not ones I shared—they were about the anxieties that stem from poverty and not understanding the dominant language. I became a listener, noting the issues that we could address in future classwork.*
>
> (Nash et al. 1992, p. 6)

When small groups are used, the instructional environment usually becomes more learner (as opposed to teacher) directed, and the learners have more of a role in helping shape the learning than in more traditional approaches. Learners become partners with the teacher in deciding on and directing the learning experiences. The teacher's traditional role as the authority and transmitter of knowledge changes and the teacher works "in a different way." The teacher becomes a facilitator and co-learner by entering into a process of mutual inquiry with the learners; instead of giving specific answers or telling learners what to do, he or she offers opinions (Gillespie 1990, MacGregor 1990, Sheridan 1989).

The more traditional teacher-directed classroom can be compared with a learner-directed environment in the following ways:

Teacher Directed	Learner Directed
• Formal class	• Informal class
• Teacher knows all	• All class members contribute information and are valued and respected
• Teacher makes decisions	• Students make decisions about what they need to learn and how they learn best
• Teacher directs students	• Teacher assists and supports students as needed

Learners and teachers accustomed to a traditional learning setting need to be prepared for the small group approach. The next chapter, **Getting Started**, focuses on preparing learners. The remainder of this chapter describes what you as a teacher need to do to implement small groups.

Group Process: The Essentials

By this stage in your life, you have undoubtedly had lots of experiences being a group member, including responsibility for group leadership. Some groups work better than others. When a group works well, its members look forward to being together and working on the task at hand. How a group functions is frequently referred to as the *group process*. Group process simply means what is done in a group as well as **how** it is done (Ennis and Davison 1989).

Group process can also be thought of in terms of the **task** and **maintenance** functions of groups. Task functions are those contributions that help the group accomplish its task; they contribute to the group accomplishing its goals or the **what** part of group process. Maintenance functions, on the other hand, are those that help the group develop or maintain itself as a group (as opposed to simply a collection of

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individuals); they contribute to the how part of group process (Tibbetts and Klein n.d.). Examples of group task and group maintenance functions include the following:

Task Functions	Maintenance Functions
• Initiating	• Encouraging
• Procedure developing	• Expressing
• Information seeking and giving	• Relieving tension
• Opinion seeking and giving	• Compromising
• Clarifying	• Listening
• Summarizing	

Some functions, including mediating, testing for agreement, and evaluation, fall into both the task and maintenance categories (ibid.).

Maintenance functions are particularly important because they contribute to group cohesiveness, which is the ability of the group to "stick together." In a cohesive group, the members feel attached to the group and close to the other group members. Developing cohesive groups is important because members are more likely to persist, be supportive and accepting of each other, and form close relationships (Rutland and Guglielmino 1987).

Although learners may eventually be responsible for assuming task and maintenance functions, you will need to perform many of the functions at first. As a part of preparing them for group work, you will also want to make learners aware of the two types of functions and their relationship to how groups work. Some learners will naturally gravitate to performing various task and maintenance functions. For example, task-oriented learners will likely assume responsibility for ensuring that the group starts and carries out its assignments. Those learners for whom relationships are more important may assume responsibility for maintaining the group by encouraging the members or helping develop compromise solutions.

The Teacher as Facilitator

In your role as a facilitator, your responsibilities will differ somewhat from those traditionally associated with being a teacher. One of your major responsibilities will be establishing a climate in which small group learning can occur. But you will also be responsible for carrying out the steps necessary to implement small group learning. The practical information presented here should help you accomplish both of these duties.

Creating a Hospitable Learning Environment

To prepare for small group learning, you must consider both the physical and psychosocial environment. It is essential that the environment does not feel like a traditional classroom because ABLE learners frequently have negative feelings about their previous educational experiences. The goal is to create an environment in which learners can gain confidence that they can learn (Gillespie 1990).

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Questions to Consider

1. *Can the room be arranged to accommodate small groups?*
2. *How can learners be involved in deciding on an appropriate physical arrangement?*
3. *Can learners be responsible for arranging the room and, if necessary, putting it back in its original condition?*
4. *Where should resources to support small group learning be located?*
5. *Who can contribute to this resource collection?*

The Physical Environment. Working in small groups requires a room that can accommodate physical changes, especially if small groups are to be integrated with both large group and individual work. Frequently, small groups work in circles. As the facilitator, you will be part of the circle with no distinction between your place and the learners' places. Such a physical arrangement visually conveys the idea that the teacher is a participant as well as a resource and allows the learners to think of themselves as resources on a par with the teacher/facilitator (Clarke 1991b).

In addition to having a room in which furniture can be rearranged to accommodate small group work, you also need a space for a resource corner containing materials to support learning activities. As a part of their role as learning resources, learners can be encouraged to loan or contribute items to the resource collection. The resource collection can expand as learners identify resources they need as well as those they can provide. Books that are different from those used in public school classrooms and that learners can borrow can be an important part of the resource collection (ibid.; Rutland and Guglielmino 1987).

Because many ABLE programs share sites with other programs, you may not have the luxury of having your own room. Or your facility may have furniture that does not readily accommodate small group work. For example, traditional school desks are cumbersome and, even when arranged in a circle, they don't create an environment that fosters cohesiveness. Also, if you are sharing rooms with other classes, you and the learners may need to make sure you leave everything the way you found it. Finally, some administrative policies may discourage developing appropriate physical environments. These deterrents are not insurmountable, but they provide challenges that must be addressed in creating a physical climate conducive to small group learning.

The Psychosocial Climate. Establishing an appropriate physical environment begins the process of helping learners feel comfortable and accepted. You must also create and foster a suitable psychosocial climate. Small group learning flourishes best in an environment in which learners feel free to exchange ideas and share experiences. Therefore, it should be nonthreatening and democratic, discouraging hostile competition as well as encouraging mutual respect for the ideas and opinions of others (Sheridan 1989).

> *Unless all students feel comfortable sharing their issues, ideas and experiences, the curriculum will be heavily weighted toward the needs of the more vocal students . . . it is also important . . . to allow for differences in individual personalities and culture, and not to push any one person too hard.*
>
> (Nash et al. 1992, p. 53)

Once small group learning becomes an established part of the learning activities, learners can share the responsibility of creating and fostering an appropriate environment. Until then, it is up to you as the facilitator to take the lead by—

> ***With beginning level learners, teachers can easily fall into patronizing and controlling behaviors . . . there are times when a participatory approach doesn't work: when there isn't enough common language to determine collaboratively the direction of the class. With carefully thought out language activities, opportunities to communicate ideas through nonlinguistic forms of expression and clear and simple questioning and focused listening, students' beginning language can be used to convey meaning about the things in their lives that are important to them.***
>
> (Nash et al. 1992, p. 9)

- demonstrating a pleasant and caring attitude toward learners, including patience, acceptance, and tolerance
- confirming that learners are significant to you by remembering their names and personal information
- demonstrating sensitivity to both verbal and nonverbal behavior
- keeping communication open and fair, permitting all learners to have a chance to participate in discussions
- establishing group norms by helping to set ground rules for the group
- accepting the contributions of learners as worthwhile
- encouraging learners to explore and understand differences while reconciling disagreements

(Ennis and Davison 1989, Sheridan 1989)

Some Nuts and Bolts of Group Facilitation

Initially, your goal should be to help learners gain confidence and learn the ground rules of talking and discussing so that they can "go it alone" in small groups (ALBSU 1982). How you handle your role as group facilitator will set the tone for the group since you will be modeling group leadership skills. Consider the following:

Examples of Open and Closed Questions

Open—

1. What do you think about the health care reform proposals?
2. Why did you decide to return to school?
3. What was your most important learning experience and why?

Closed—

1. Which Ohio Senator voted for the Brady Bill?
2. Who won the World Series last year?
3. What does 7 X 7 equal?

Types of Questions. The types of questions you use can have a significant influence on group discussion. Open questions, for which there are an almost indefinite number of responses, encourage discussion. Closed questions to which there are only one or two correct answers limit discussion. A question requiring a factual response is an example of a closed question. Reasoning questions, those that ask "why," and opinion questions, those that ask "what do you think," are examples of open questions. Using too many closed questions can be threatening to those learners who rarely get correct answers (ALBSU 1982). (See sidebar for examples of open and closed questions.)

Verbal and Nonverbal Responses. What you say and how you act can also strongly influence the group. Caring, concern, and sensitivity should be demonstrated by both your verbal and nonverbal responses. Nonverbal behavior is very easy to read and you may be conveying mixed messages if it contradicts what you are saying (Rutland and Guglielmino 1987). For example, a frown in response to

an answer to an open question may convey that you are being judgmental and effectively cut off further participation in the discussion.

Questions to Consider

1. Do you display consistent behavior toward all group members?
2. Are you more interested in conflict- or problem-free sessions or those in which a lot of learning occurs?
3. Do you respond in such a way to learner contributions (for example, saying "Yes," "No," "Good point") that learners feel pleasing you is more important than actually contributing to the discussion?
4. Do you ask questions to which the answers are readily evident?
5. Do you allow students to help each other when working individually or do you always assume the role of knowledge authority? (ALBSU 1982)

Coping with Silences. Silence during a group discussion should not be interpreted as negative. Periods of silence can be productive since they allow participants time to think. Silences can also provide a gap that will allow more reserved learners to enter the discussion. Or, they can be an indication that the atmosphere is comfortable. You may decide that a period of silence is unproductive or has gone on too long. In that case, you can break the silence by asking if anyone else wants to say anything, by asking a further question, or by going on to another topic (ALBSU 1982). A lengthy or uncomfortable period of silence may mean that, from the learners' perspective, the topic under discussion has sensitive aspects. As you work with learners in a group setting, you will develop the ability to interpret and respond appropriately to silences.

Handling Potential Problems. Two potential problems that may arise when working with groups are side conversations and conflict. An important ground rule for groups is that whoever is speaking deserves to have the full attention of the other learners. If you sense that two or more group participants are carrying on their own conversation during the group discussion, you can simply ask for their contribution to the larger discussion. Such action will effectively bring the learners back into the discussion and also allow them to raise their points before the entire group.

It is not unusual for differences of opinion to arise during discussions; in fact, multiple perspectives are the sign of a healthy discussion. However, if these differences develop into conflicts, then you should intervene. A suggested strategy is to step in with phrases such as "Of course, there are two sides to every argument," "Well, that's one point of view," or "Would anyone disagree with that?" to allow participants time to gain perspective. Or, you may wish to call for a break in the discussion to allow for a cooling-off period. You may use the period as a time when you and the learners can talk about why the discussion has become so heated. Finally, role reversal, in which the learners take perspectives opposite their own, can also be an effective means of resolving conflicts (ALBSU 1982).

> *Student groups will fight—in fact they should fight, but only in particular ways. "Substantive" conflict, conflict directed toward the work at hand and issues pertaining to it, is highly productive and should be encouraged. "Personal" conflict, conflict directed toward group members' egos, however, is damaging and unproductive. The lesson is that students need to respect each other—not so much the subject in question or the inviolability of any particular opinion about it.*
>
> (LeCourt and Miller 1992, p. 5)

Dealing with Diversity. As the facilitator, it is up to you to establish a climate in which all learners feel free to participate. Some learners may be from cultures in which small group learning is not the norm or which discourage (or prohibit) speaking in mixed gender groups. Males and females may have different reactions to small groups. Because many women prefer teaching methods that are cooperative, democratic, and collaborative and permit learners to share power and authority in the teaching process (Kerka 1993), they may adapt more readily to small group learning.

> *Because our students all have different experiences and cultural heritages to offer, some instructors try to create groups according to gender and ethnic diversity. That is, they try to avoid a homogeneous grouping (e.g., five white females) in order to encourage different perspectives that may come from the diverse cultures our students represent.*
>
> (LeCourt and Miller 1992, p. 5)

In addition to learner culture and gender issues, you also need to be aware of your own reactions to learners. Do you, for example, think that some learners are at fault for what they haven't learned yet? If so, is this subconscious blaming a result of lack of respect and understanding of the students' race or class (Clarke 1991a)? Because of cultural or social conditioning do you react differently to males than to females or to learners who do not share your socioeconomic or cultural background?

Handling issues related to diversity requires awareness of your own and learners' cultural and social conditioning. By developing sensitivity to gender and cultural issues, you can encourage nonparticipants to join in small group learning endeavors.

Forming Groups

Before you can form small groups, you need to know **what** you want the groups to do. You can begin this process by asking yourself what kind of activities are appropriate for the learners as well as how the material can be covered effectively in small groups. These questions need to be answered before you can decide **whom** to put in **which** group, **when** groups should convene, and **how** groups should interact (LeCourt and Miller 1992).

When you are clear on the learning task and have decided it is appropriate for small groups, the following criteria can guide the planning of group learning activities:

- *Grouping*. You will need to decide the most effective way to group learners in order to accomplish the task. The information on types of groups, formal and informal, can help you make decisions about grouping (see next page).
- *Time*. Adequate time must be allowed to accomplish the task. If you think some groups will finish early, you should be prepared to provide activities that will extend the group work in a meaningful way.
- *Goals*. The goals may focus on the learning needs of individuals or the group or both. Ideally, small group learning tasks should help learners achieve their individual learning goals while helping them develop important skills associated with group work.
- *Roles*. Group work requires learners to assume some roles. The most common roles in small groups are those of facilitator and recorder/reporter. However, you may also wish to have someone serve as the timekeeper to help the group stay on task.

> *One of the advantages of working in a group is the wide range of resources and support that come from other group members. . . . But the big disadvantage from the planning point of view is precisely that diversity. . . . [The teacher] must be aware of individual differences and needs and then find ways of using a common theme to enable students to achieve their particular goals.*
>
> (ALBSU 1982, p. 8)

- *Setting*. As discussed previously, usually the physical space requires some rearrangement to accommodate small groups. You should be prepared to instruct learners on how to prepare the room for the task.
- *Resources*. Although small group learning can take place without any special materials, sometimes materials are needed. You need to be prepared to provide the resources necessary to carry out the particular task (Tibbetts and Klein n.d.). Learners may also provide resources.

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When you have established criteria for accomplishing the task, you may also find it helpful to think in terms of two types of groups: **formal** and **informal**. Formal groups have definite structure and perform complicated tasks. Considerations in forming formal groups include heterogeneous grouping of learners; carefully planned structured activities around a complicated, long-term task or situation; and elaborate presentations or feedback from groups. Cooperative learning assignments frequently require formal groups. Informal groups, on the other hand, are formed quickly to accomplish a task that arises out of a classroom learning situation such as making choices, brainstorming, completing an easy task, or discussing an issue. They can be formed rapidly by grouping learners according to where they are seated, asking students to "count off," or asking students to group themselves (Tibbetts and Klein n.d.).

Formal Grouping Strategies

- Instructor forms heterogeneous groups
- Groups have well-defined structure
- Team performance receives primary recognition
- Groups are longer lasting
- Groups engage in cooperative learning

Informal Grouping Strategies

- Groups form themselves
- Groups have loosely defined structure
- Individual performance receives primary recognition
- Groups are short term
- Groups engage in activities such as peer practice, brainstorming, discussion, decision making

(Tibbetts and Klein n.d.)

Another aspect of your facilitator role is group management. Once formed, groups will need instructions related to the particular learning task. During the group work, you will need to monitor group process and be available for assistance with the task. After the group activity ends, you will need to ensure that feedback from all groups is shared. Finally, you will be responsible for evaluating both group and individual performance and encouraging improvement of both academic and cooperative skills (Tibbetts and Klein n.d.).

> *We do not believe that grouping students is necessarily tied to the ability or education of the students. We try to keep students on similar levels together; but, when this is not practical or possible, we alter our teaching methods so that students of different levels can participate in the same group profitably.*
>
> (Davis and Davis 1987, p. 18)

Dos and Don'ts for Facilitating Small Groups

Do—

- include all learners who are members of the group
- make comments that show you value the contributions of each learner
- demonstrate sincere interest in what is being said and implied by assuming an attitude of active listening and integrating appropriate comments
- be alert to nonverbal communication messages and interpret them to other learners as appropriate
- encourage all learners to contribute their own ideas and knowledge
- encourage support for one another in the group by asking for suggestions to help in individual problem solving

Don't—

- allow one or two learners to monopolize the group
- overlook an unpleasant look, comment, or physical response because it is difficult for you to respond to negative behavior
- allow your attention to be diverted from the group goals and the underlying agenda by personal concerns or by focusing too much on individual (rather than group) issues
- give your opinion or personal examples to illustrate a point unless learners have been encouraged to do so first
- push a learner to contribute; instead, offer the opportunity in a nonthreatening way
- allow learners to respond in nonconstructive ways to each other; instead confront by asking the group to address negative behaviors

(Adapted from Rutland and Guglielmino 1987, pp. 6-8)

Forming Groups: A Checklist

Planning Group Activities

1. Am I clear on what learning task I want the group to accomplish?
2. Have I selected a grouping strategy that is appropriate to the nature of the task?
3. How much time is needed to accomplish the task and is sufficient time available?
4. Are some groups likely to finish the task before others and, if so, are there meaningful ways to extend the activity?
5. What is the goal of the learning activity? Is it related to the group, to the individual, or to both?
6. What measures can I use to assess the group learning effort?
7. What roles will group members need to perform to accomplish the learning task?
8. What kind of furniture arrangement does the learning task require?
9. Are any materials required for the task and, if so, will they be available?

Managing Group Activities

1. Can I give clear instructions for forming the teams as well as what is expected from the group activity (i.e., the learning task)?
2. Am I prepared to monitor groups and assist with tasks, as needed?
3. How will receiving feedback from groups be handled?
4. When and how will evaluation and assessment information be relayed to groups and/or to individuals?

"GETTING STARTED"
In *More Than the Sum of the Parts:*
Using Small Group Learning in Adult Basic and Literacy Education
by S. Imel, S. Kerka, and S. Pritz, 27-34
Columbus, OH: Center on Education and Training for Employment, 1994 (ED 368 905)

Before launching into small group learning, you will need to spend time preparing learners for this approach. Although most learners will have been members of some kind of group, they may not be familiar with small groups in learning settings. Some may resist the notion of learning in small groups. For example, some may feel that by using small groups, you are abandoning your role as the authority, and others may not be familiar with how groups function.

> *The tendency for most instructors who plan to have students work in groups for the first time is to simply have students choose their own group and assign them a general task. Unfortunately, such an organization assumes the students will be familiar with working together and have experience structuring tasks. Usually, such an immediate dive-in to group work results in a belly flop that convinces the instructor that group work is messy and unproductive.*
>
> (LeCourt and Miller 1992, p. 3)

Regardless of how you intend to integrate small groups into your learning program, all learners will benefit from some preparation for working in small groups, including performing roles associated with group membership. In addition, you and the learners can engage in some group activities designed to introduce them to fellow learners and to help them become accustomed to small group learning. By serving as the facilitator of these activities, you can provide a model for how they might work later in autonomous groups. In addition, these activities will provide opportunities for them to practice various group roles.

Preparing Learners for Small Groups

> *Since [we] advertised one-on-one instruction, we anticipated strong resistance to the idea of joining a group. Surprisingly, the resistance was minimal. The students accepted the idea more readily than some staff members did. We were reminded to make no assumptions, but rather to consult with the learners for accurate information.*
>
> (Greater Pittsburgh Literacy Council 1992, p. 2)

Even if you intend to use only informal groups, learners still need to be prepared for group roles as well as understand how they can contribute to group learning tasks. Common group roles include facilitator, recorder, and timekeeper. However, since other roles associated with group task and maintenance functions described [earlier] are also important, they need to be discussed. Learners need to understand that even if they do not have an assigned role, they share equally in the responsibility for the group accomplishing its task.

Talking about the different kinds of roles and then allowing learners to role play or practice them in groups is the best way to help them understand group roles and how they contribute to group work. Putting group roles in context by asking learners to translate group roles into their daily lives is another excellent strategy for helping learners prepare to assume group roles (Tibbetts and Klein n.d.). This is a particularly effective strategy for helping learners to understand the more abstract roles associated with group task and maintenance functions. Learners can be asked to think of the people they know who always have a knack for turning a potentially angry situation into one that is more lighthearted by making a joke or saying something funny at the right time. You can tell them that such a person is performing

the group maintenance function of relieving tension. They may also be able to identify the people they know who want to make sure that everyone understands what is going on, which could translate into the task function of clarifying.

Preparing Learners for Small Groups: A Checklist

1. Discuss and define common roles of *facilitator*, *recorder*, and *timekeeper*.
2. Ask learners to relate these roles to any of their experiences in groups.
3. Ask learners if they can think of other things that need to be done for a group to operate smoothly.
4. Ask learners if they can draw on their own experiences in groups for examples of behavior that may keep the group from accomplishing its tasks.
5. Have learners role play or practice group roles.
6. Take time to discuss the group process on an ongoing basis.

You should also make learners aware of the kinds of behavior that can detract from the group accomplishing its work. Examples of this kind of behavior include the following (Tibbetts and Klein n.d.):

- Dominating the group by being the expert, hogging the discussion, or competing with others
- Distracting the group by digressing from the task, clowning, or confessing personal experiences
- Dragging the group down by putting others down, displaying negative attitudes, nitpicking, being defensive, or withdrawing

Again, learners can be helped to understand these behaviors and their possible effect on the group by relating them to their own experiences.

Learning about group membership should be ongoing. Although it is certainly advisable to introduce learners to group roles prior to beginning group work, part of group work should include examining the experience. Periodically after groups have completed their tasks, you should spend time with learners discussing what happened in the group. For example: Who took care of various group task and maintenance functions? Did anything get in the way of the group accomplishing its task?

If you establish formal, ongoing groups, you may wish to introduce the concept of "self-monitoring," in which members of the group keep track of how the group is functioning. Members can divide up monitoring tasks with one member keeping track of turn-taking, who speaks and when, and one observing nonverbal behavior. Self-monitoring groups can be encouraged to discuss any problems they see arising but to also consult with you when they can't solve problems on their own (LeCourt and Miller 1992).

> *Doing a sampling of student writing was an effective way to measure growth over a specified period of time [but] it wasn't nearly as informative as the discussion of learning it evoked. Students used this occasion to discuss in great detail what they had learned in the courses and how their learning strategies had changed.*
>
> (Nash et al. 1992, p. 44)

Groups that are ongoing need time to become accustomed to each other. By sequencing group tasks so that members initially work together on smaller assignments, you will give group members time to learn to trust one another and become comfortable with each other's personalities, strengths, and weaknesses (ibid.).

Sample Activities for Introducing Group Work

The following activities can be used to introduce group work to learners. First are a series of icebreakers designed to provide learners an opportunity to get to know one another. Then, two other activities, "Inner Networks" and "Learning as an Adult," begin shifting the focus of small group work to the learning context.

Icebreakers

When you begin using groups, learners need an opportunity to get to know each other. Even though they may have been attending the program together over a period of time, you cannot assume that they are acquainted or that they even know each other's names. Icebreakers are exercises designed to allow learners to exchange information that will help them feel comfortable with one another as well as prepare them for working in groups. Through icebreakers, learners can exchange personal information as well as their reasons for coming to class. One way of thinking about icebreakers is as structured "small talk."

Some suggested icebreakers are included here, but from your experiences working in groups, you are probably familiar with others. Before selecting and using any icebreaker, you need to consider the following (Dahmer 1992, Gillespie 1990):

- What do you know about the backgrounds of the learners who will be participating?
- Could any of the learners fail at what they are being asked to do?
- Could the exercise create barriers instead of develop rapport?
- Could the exercise embarrass learners, particularly those who are introverted?
- Is the exercise appropriate for the learning setting and will it contribute to learners getting to know each other?
- What are the best ways to make the group comfortable?
- Can the chairs/seats be arranged in a circle?
- Could you provide refreshments?
- Could any of the learners serve as co-facilitators?

The first four icebreakers were adapted from Gillespie (1990)

Getting Acquainted. Pass around a box full of pictures that have been cut in two. You'll need the same number of pieces as there are participants (learners, teachers, volunteers). Have each participant choose a paper from the box. Then tell everyone to find a partner by matching pictures. When everyone has found a partner, explain that they will have 15 minutes to interview each other and that after the interview they will introduce their partner to the entire group. The following questions can be suggested for use during the interviews:

- What is your life like (i.e., do you have a family, are you working, and so forth)?
- What do you like to do in your spare time?
- What kinds of things do you think you do well?
- Why are you coming to ABLE classes?

When interviews have been completed, bring the group back together and have the partners introduce each other. You can conclude by mentioning that there will be additional opportunities to discuss goals and backgrounds later.

Names. Have participants discuss their names or their nicknames. Who chose their given name? Why? Is it a family tradition? If they have a nickname, how did they get it and what do they like or dislike about it.

Hopes and Fears. Divide participants into pairs. (You can use any method, including self-selection.) Give them 15 minutes to discuss what they hope to get out of the class and their fears about coming to the ABLE program. Come back into the large group and share hopes and fears with the group.

This icebreaker may be more appropriate for use at the beginning of a series of meetings.

Yesterday, Today, and Tomorrow. Have each participant interview a partner and find out one thing about his or her past, what she or he is doing right now, and one thing he or she hopes to do in the future. Be sure to emphasize that these responses don't have to be related to learning; they may include hobbies, work, families, and so forth. Come back into the large group and share responses.

Little Known Facts. In preparation for this icebreaker, collect two little known facts about each learner. Develop a list of these items, leaving a place for a signature after each group of two. Give a list to each learner and have participants circulate and interview each other to discover which "facts" match which learner. When an individual is identified and matched with a set of facts, he or she should sign the paper.

This icebreaker is good to use when introducing small group learning to individuals who may know each other casually because they have been coming to the program together for a period of time.

As described, this icebreaker should be used only with learners who are able to read, so you might want to develop an alternate form if you are working with nonreaders or low-level readers. For example, you could ask learners to think of one little known fact about themselves and then have the group circulate and interview each other using a "20 questions" approach to elicit the fact.

Inner Networks

Originally developed by Hanna Fingeret and adapted from Gillespie (1990), this exercise is designed to help learners think about how close friends and family influence their learning. It also places small group work in the learning context. An inner network is defined as those persons closest to the learner. It could include spouse, children, neighbors, parents, and so on. The exercise asks learners to depict that network, to think of how the members help one another, and to imagine how those relationships might change if they were to become more independent in their ability to read and write.

1. Learners begin by placing an X in the middle of a piece of paper and then drawing a circle around the X. For each member of their "inner network," they place an X on the circle and, if appropriate, the name of the person represented by the X. Most learners will probably have a small number of Xs.

2. Ask learners to think back to some fairly major changes in their lives during the past few years that have required learning new skills and using new knowledge. These could include becoming a parent, taking a new job or facing changes in current job, getting married, or moving. Ask them to take another piece of paper and chart their inner network before this change took place.

3. Have learners break into small groups of three or four. In the groups have them discuss how they moved from the relationships on the chart depicting their inner network before the change took place to their current inner network. Suggested questions include—
   - How did the change come about?
   - How did you feel about it?
   - What kinds of skills did you use in making the change?
   - How did the members of your inner network respond?

4. Next, ask the groups to think about someone in their previous or current inner network who has undergone some major change. Suggested questions for discussion include—
   - How has that change affected you?
   - How did you feel about the change when it occurred?
   - How do you feel about the change now?

5. Next, ask groups to consider how current learning efforts are affecting (or might affect) their inner networks. Suggested questions for discussion include—
   - Who in their inner network helps them with reading and writing now?
   - As the learner becomes a better reader, could that person continue to help?
   - Who else might be affected as they improve their abilities to read and write?
   - In what ways might improving their abilities to read and write influence the relationships in their inner networks?
   - In what ways might members of their inner networks encourage or discourage participation in the ABLE program?

6. Reconvene the large group and ask each group to summarize its discussion. Help the groups to chart some of the common responses. Ask the group to evaluate this activity and the group process. Some suggested questions are—
   - What did they learn?
   - Can they recommend any other follow-up activities?
   - Did anyone talk more than the others?
   - Was anyone very quiet?
   - Did anyone assume a role as a leader, a recorder, or a summarizer?
   - Can they think of ways that they might like to change how they operate in a group?

Learning as an Adult

Designed to help learners understand why it is important to participate actively in their own learning, the following activity has also been adapted from Gillespie (1990). It is designed to help learners understand that they can draw on their previous experience as a source for learning. It also helps set the stage for future discussions of individual learning strategies. A major advantage of the small group learning approach is that it offers an opportunity to share learning strategies, sometimes referred to as metacognition.

1. Write the word **EXPERT** on the board or on a flip chart. Ask the group to define the word. Then ask them to name people they consider to be experts.

2. Point out that even though they might not have been in school since they were young, they haven't stopped learning. Describe some of the things people learn that do not require reading and writing. You might encourage the learners to participate in the discussion by asking them for examples.

3. Ask learners to find a partner and to describe something they taught themselves. (Examples include repairing a car, cooking a new dish, learning to dance, learning a new job, and so forth.) Ask them to discuss the following questions:
   - How did they learn it?
   - Who or what helped?
   - How did they get the information they needed?
   - Were there any problems they had to solve?
   - How did they combine what they already knew with new information?

4. Reassemble as a large group and discuss the different ways of learning reflected in the experiences of the participants. Some examples include—
   - Listening to a teacher
   - Watching an expert
   - Listening to television, radio, or music
   - Making mistakes (i.e., trial and error)
   - Following instructions (written or oral)
   - Using their imagination

5. Ask the group to list some of the conditions that made it easy or difficult to learn. Which of the ones listed do learners feel are most important?

6. Ask the group to think about the difference between what they learned on their own and something they learned from a teacher. Which method of learning was more effective and why?

7. At the conclusion, ask learners to evaluate the activity. Suggested questions include the following:
   - Do they feel that it contributed to their understanding of how they learn?
   - Can they suggest follow-up activities?
   - Would they like to participate in additional group activities that explore how they learn?
   - Did anyone talk more than the others?
   - Was anyone very quiet?
   - Did anyone assume a role as a leader, a recorder, or a summarizer?
   - Can they think of ways that they might like to change how they operate in a group?

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Rutland, A. M., and Guglielmino, L. M. *Increasing Readiness for Self-Directed Learning: A Facilitator's Manual for Ten Self-Directed Learning Group Modules for Adults.* Boca Raton, FL: Adult Education Division, Florida Atlantic University, May 1987. (ED 324 466)

Sheridan, J. "Rethinking Andragogy: The Case for Collaborative Learning in Continuing Higher Education." *Continuing Higher Education Review* v37/n2 (Spring 1989): 2-6.

Tibbetts, J., and Klein, M. *Study of ABE/ESL Instructor Training Approaches: Team Learning.* Washington, DC: Office of Vocational and Adult Education, U.S. Department of Education; Pelavin Associates, n.d.

Reflection on Reading 3

- What are the characteristics of effective groups?
- Why are maintenance functions important?
- What are the differences between formal and informal groups?

Formal	Informal

- What is the role of the instructor in small groups?
- List three strategies you could use to introduce small groups to learners in a workplace program.

1.

2.

3.

Manage Instruction

- Describe how you might vary instruction so that it would incorporate large group, small group or pairs, and individual work. Include information on how such variation might reflect the workplace.

- Develop a plan for assuming a facilitative role in the instructional setting. Include examples of activities that could be used with learners to help them assume greater responsibility for their own learning.

- Using workplace materials, develop three examples of learning activities that could be used to teach critical thinking skills (e.g., problem solving). Describe how these activities could be used with small groups. Begin to develop a file of ideas that could be used as the basis for small group learning activities.

TOPIC: Manage Instruction

Evaluation Guidelines

Directions: Check your competency with the following criteria:

Learner Self-Check		Review Checklist
Did you—		Did the learner—
☐	1. Incorporate large-group, small-group, pairs, and individual instruction so as to reflect the reality of the workplace?	☐
☐	2. Identify specific activities that would help learners assume greater responsibility for their own learning, including the use of learners to teach other learners?	☐
☐	3. Identify strategies for facilitating, rather than directing, the identified activities?	☐
☐	4. Develop three learning activities for teaching critical thinking skills that—	☐
☐	a. reflect actual workplace situations and contexts?	☐
☐	b. confront learners with alternatives/thought-provoking situations?	☐
☐	c. promote collaboration?	☐
☐	d. encourage curiosity, exploration, and investigation?	☐
☐	e. require students to justify their ideas?	☐
☐	f. require students to be accountable?	☐
☐	g. could be used with small groups?	☐

Learner: _____ Reviewer: _____

Level of Performance: If the evaluation results indicate a need for further competency development—or if the learner wishes to pursue the topics covered in further breadth or depth—please refer to the supplementary resources described in the Annotated Bibliography, which follows.

Annotated Bibliography

de Bono, E. *Thinking Skills for Success.* Eden Prairie, MN: Paradigm, 1990.

This workbook is designed to assist learners in developing critical thinking skills by thinking about particular issues or situation, examining ideas from different perspectives, and thinking constructively about ideas. The workbook allows for large- and small-group discussions and for individual work.

Imel, S. *Small Groups in Adult Literacy and Basic Education.* ERIC Digest No. 130. Columbus, OH: Center on Education and Training for Employment, The Ohio State University, 1992. (ED 350 490)

The digest lists the advantages and disadvantages of using small groups, presents characteristics of small groups, and discusses implementation considerations.

Imel, S. *Collaborative Learning in Adult Education.* ERIC Digest No. 113. Columbus, OH: Center on Education and Training for Employment, The Ohio State University, 1991. (ED 334 469)

This digest defines collaborative learning (CL) and describes ways to facilitate it. Issues associated with CL and its benefits are also discussed.

Pritz, S. G., and Crowe, M. R. *Technique for Remediation: Peer Tutoring.* BASICS: Bridging Vocational and Academic Skills. Columbus, OH: The National Center for Research in Vocational Education, The Ohio State University, 1987. (ED 288 962)

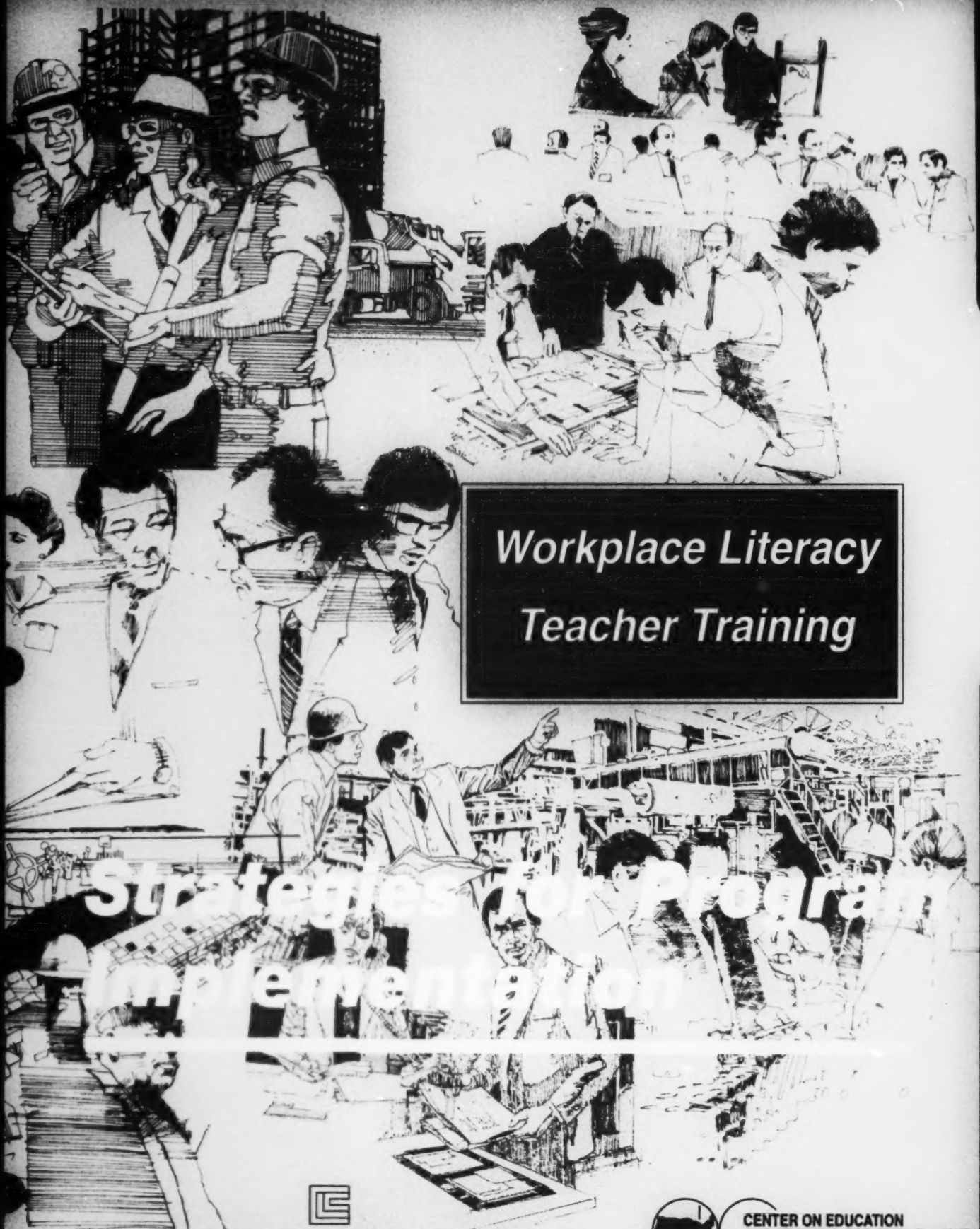
This document defines peer tutoring, describes its benefits, and discusses how to plan, develop, and evaluate a peer tutoring program.

Thomas, R. G. *The Tailored Response Test: An Approach to Assessing Higher Order Thinking Related to Work Roles and Contexts.* St. Paul, MN: Minnesota Research and Development Center for Vocational Education, Department of Vocational and Technical Education, University of Minnesota, November 1988. (ED 301 770)

The purpose of the research reported in this document was to investigate the tailored response test (TRT) as a potential approach to assessing learning of perceptual and thinking processes, including complex judgment processes, relevant to work roles. The TRT is an approach to assessment that more closely simulates the actual functions and operations to be predicted than is possible using traditional written, objectively scored multiple choice tests. The TRT is intended to provide test responses that are more purely a function of the knowledge of a field or subject and less a function of alertness to surface cues provided by traditional types of test items as to a "right" answer. Results of pilot tests indicate that the TRT is a promising approach to the assessment of learning of perceptual and thinking process, including complex judgment processes relevant to work roles.

Thomas, R. G., and Englund, M. *Instructional Design for Developing Higher Order Thinking. Volume I: Knowledge Domain Development.* St. Paul, MN: Minnesota Research and Development Center for Vocational Education, Department of Vocational and Technical Education, University of Minnesota, July 1989. (ED 323 291)

This volume is one of two that report the development of an instructional design model relevant to facilitating students' higher order thinking in vocational education programs. Volume I reports development of the knowledge domain portion of a prototype instructional design developed from the model and describes concepts central to knowledge domains as viewed in the model. Volume II describes the instructional design model and the prototype instructional design developed and tested in this project. This approach to instructional design focuses on facilitating higher order thinking in relation to specific domains of knowledge and practice.



Workplace Literacy Teacher Training

Supplemental Program Implementation

COLLEGE OF LAKE COUNTY

CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
COLLEGE OF EDUCATION
THE OHIO STATE UNIVERSITY

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Assess Learner Performance

Introduction

We are all familiar with tests. Our school experiences were full of them: quizzes, mid-terms, final exams, standardized tests, and so on. These are traditional testing methods, and although they can have their uses in workplace literacy programs, the testing procedures used in these programs are more appropriately drawn from alternative assessment methods. Alternative assessment methods, like the instructional programs in which they are used, focus on holistic performance (not discrete skills) within a functional context.

In this learning guide, you will learn about why assessment is important, when it should occur; what characteristics define "good" assessment procedures, and the full range of assessment strategies available. You will also have the opportunity to learn about—and practice—two particularly effective alternative assessment techniques: competency/performance-based assessment and portfolio assessment. Related to these techniques, you will develop skill in devising criterion-referenced measures to ensure that assessment is carried out in relation to objective standards.

Objectives

- Identify (1) interview questions that could be used for diagnostic purposes and (2) sources of assessment anxiety.
- Explain the scenario development process and identify process/product criteria for assessing a task.
- Identify appropriate portfolio receptacles, materials, and activities for adult learners in a workplace literacy program.
- Use a portfolio approach to develop and assess your own competency in devising work-related scenarios. Work collaboratively with your evaluator to identify the criteria to be used in assessing your performance.

To Help You Meet the Objectives

- Study the material that follows:
  - Reading 1: Assessment in Workplace Literacy Programs
  - Reading 2: Competency/Performance-Based Assessment
  - Reading 3: Portfolio Assessment

- Reflect on the questions posed after each reading. The questions are designed to help you clarify and extract meaning from the reading that can be helpfully applied. There are benefits to both individual and interactive reflection—
  - ~ As an individual, consider how you would apply the information either in the program to which you are already assigned or in a program to which you might be assigned.
  - ~ If you are able to discuss these questions with other instructors or program staff, try to get other perspectives on the reading. Compare notes on the ways the ideas can be and have been applied in their experience. If the experiences differ, help each other probe the possible reasons for the differences.
- Complete the Application Activity.
- Evaluate your own competencies using the Evaluation Guidelines. This is an opportunity to assess your own learning and identify any areas in which you feel less competent or confident. If indicated or desired, take advantage of the opportunity to review the related material in the Annotated Bibliography. You may also want to seek out a more experienced person who can be a mentor to you on this topic, helping you assess your competency and acting as a resource person.
- Ask your reviewer to evaluate your skills also. Be sure to note the input from the reviewer that can provide the basis for your further competency building.

To Help the Reviewer Guide and Evaluate Learner Performance

These learning guides have been designed to allow for maximum flexibility of use. For those individuals using them for professional development (without ties to a formal program), the guides allow for self-study. Such use may, however, limit the opportunity for interaction and practice in a group setting. Therefore, if learners are completing these guides in a group setting under your direction, it is strongly recommended that you identify such opportunities and capitalize upon them.

Reflection questions at the end of each Reading and an Application Activity and Evaluation Guide at the end of each learning guide provide opportunities for you, as a reviewer, to monitor progress and evaluate learner performance on the workplace literacy knowledge and skills being developed. However, your expectations should be based somewhat on the learner's background (e.g., previous instructional experience) and the learner's progress in the program. Individuals with previous experience as instructors in workplace literacy programs should be expected to extend their thinking and activities beyond the level expected of those without such experience.

For example, if the learner is asked to "define company culture," individuals ***without*** instructional experience would be expected to respond solely on the basis of their reflections concerning the readings provided within the guide. The responses expected of individuals with instructional experience, however, should go beyond the readings, incorporating their real-world experiences as well. Likewise, as individuals complete more and more of the learning guides, their work should reflect that progress. Knowledge and skills gained in earlier guides should be ***integrated*** into their reflections and activities as they work through later guides.

Flexibility can also be provided concerning how the learner will demonstrate competency. At a minimum, the learner should submit ***written*** descriptions, definitions, and explanations to demonstrate successful completion of the Application Activity. These should be evaluated—by both you and the learner—using the criteria provided in the Evaluation Guidelines. If feasible, however, you should also arrange to meet with the learner to discuss his or her written documentation. At that time, you could also pose hypothetical or actual situations related to the skill criteria and ask the learner how he or she would handle those situations. Another possibility would be to ask individuals to perform the skill as part of a presentation or demonstration to others in the class or group.

It is also desirable that, whenever possible, you and the learner identify opportunities for expanding on the learning experiences presented in the guide—ways for the learner to apply the learning more deeply and broadly. The question, "What plans do you have for learning more about the skill covered in this guide?" could well be a standard one. In many cases, the learner can use his or her work in the Application Activity as a building block for further exploration.

In summary, the learning situation is not one in which strict criterion-referenced standards based on percentage attainment or mastery levels are suitable, nor would one mode of demonstration be feasible—or appropriate—for everyone. You and the learner should discuss and reach agreement in advance on the level of achievement expected and mode of demonstration to be used so as to create the optimal learning experience. The intent is for the learner's professional development to be competency-based, rigorous, and designed to motivate further learning, yet sensibly adapted to the situation and to the learner's needs and abilities. Hopefully, the learners will carry this flexible philosophy and approach into their own workplace literacy programs.

Assessment in Workplace Literacy Programs

First, let's look at why you assess performance. Typically, the purposes are listed in what would appear to be a linear fashion:

- ***Diagnosis***—measuring where your learners are in the skill development process. You want to know what they ***can*** do, as well as where skills are lacking or weak so you can plan strategies for developing their skills in those areas. This sounds like a pre-assessment process.
- ***Progress***—measuring how far learners have moved in relation to (1) where they were when they started and (2) the goals set for their program. You need this kind of in-course information to ensure that instructional plans continue to meet learners' needs. This sounds like daily quizzes, unit exams, and informal assessments conducted throughout the program.
- ***Accountability***—measuring whether instructional goals have been met. You need to know whether learners have indeed developed the literacy skills the program was designed to develop and whether this has the desired impact on the workplace. This sounds like a post-assessment or "final" examination.

Assessment and instruction are intertwined—seamless.

But those purposes are not linear. They are simultaneous. Not only that, the best assessment is so closely tied to instruction that the two cannot be easily separated. Assessment is not something that occurs periodically during a pause between units. It is a continuous process, an inherent part of instruction.

Thus, in the pre-assessment or intake phase of the program, you should not just be diagnosing needs. You should also be identifying ***progress*** to date. All learners, but particularly adult learners, bring stores of knowledge and experience to the program. Part of pre-assessment should be the identification of these strengths on which learning can build. Pre-assessment is also part of accountability; it provides the baseline data against which achievement can be measured at the end of the program. And it should be treated not as a separate evaluation phase but as the first phase of ***instruction***.

Likewise, during the program, progress assessments should not be terminal (nor fatal) in nature. They should not be an end in themselves (i.e., it's grade time); rather, they should be a part of instruction—one that can be used to celebrate progress and ***diagnose*** what needs to happen next.

And finally, post-assessment should not feel to the learner like the end of the road. Reducing learning to a final score is somehow like pinning a rare butterfly in an album. It's dead! The program may have ended, and indeed you want to show achievement for accountability purposes, but learning is a living thing, and the learner's growth, one would hope, will continue, whether in a subsequent program or on his/her own. Thus, even "final"assessment

should be used not only to mark progress but to help the learner diagnose next steps and set new goals.

Good assessment, like good instruction, is learner-centered, participatory, and collaborative.

Another thing you should have noticed in the initial paragraphs was the emphasis on what you, the instructor, need from the assessment process. Assessment must not be done only by ***you*** nor solely to meet ***your need*** for information. If you sincerely want to conduct a workplace literacy program that is learner-centered, participatory, and collaborative, then the learner should be actively involved in the assessment process. If you are sincere about setting literacy instruction in a functional context, the learner's involvement is critical. You cannot prepare learners to function independently on the job by making them completely reliant on you for the evaluation of their performance.

Assessment devices should mirror the nature of the instruction

Regardless of the program involved, one of the assessment guidelines that always applies is that assessment tools should be selected to fit the learning objectives. Thus, in traditional programs, if students must memorize facts, then the assessment device should require the recall or recognition of facts. If, on the other hand, students are learning to analyze or synthesize information, then the assessment device should require them to do so as well.

For workplace literacy programs, this means that assessment must be set in a functional context and must test the application of basic skills in reference to holistic tasks (not decontextualized skills). If a program goal is to help learners develop the ability to apply their basic skills appropriately to new tasks they will encounter on the job and/or to use them to become able lifelong learners, then metacognition and reflective practice are probably part of your program. If so, then assessment must measure these skills and practices as well.

Ensuring that these essential skills and concepts are part of both instruction and assessment will probably not be as easy as it might seem. You and the learners are both likely to have years of conditioning in a traditional school setting that will conspire to make the "old way" seem more natural. In order to stay on track, you—and they—will need to keep the differences between traditional school approaches and the reality of the workplace firmly in mind as you journey through the program.

Some of these differences are summarized on the next page. ***Please*** note that the "in school" descriptions reflect the ***extremes*** of a traditional approach; they are not meant to suggest that all, or even most, of America's classrooms incorporate these features.

In school, you study a unit of instruction, are tested on its content, receive a grade reflecting your knowledge at that point in time, and move on. Thus, if you get a failing grade because you don't know how to add simple fractions, theoretically, you're stuck with that lack of knowledge for life. The instructional schedule rules—it's time for decimals. Likewise, if you dash off an essay the night before it's due, you will get a grade on it and leave it behind. Your draft, for instructional purposes, becomes a final product.

At work, if you submit a budget that has been incorrectly calculated or a report that is badly written, you don't get to leave it and move on. You're expected to stay with the task until it's completed satisfactorily.

Worse, if it were to slip through uncorrected, you might eventually have to "make do" under the inadequate budget!

In school, your performance is assessed by the teacher. When you study for the unit test, you are guessing where to focus your studies because what will be on the test is the teacher's secret. When you get the test back, you check your grade and file (or toss) the test away. Why? What's the motivation for looking closer? That content's over and done with. So you may or may not understand what the teacher's red marks meant.

At work, if you want to submit a properly calculated budget or well-written report, you need to be able to self-evaluate so you can revise and polish the material until it's right. To do that, you need to be able to analyze the process (metacognition) and identify the criteria used in the workplace to judge such efforts (e.g., by reviewing existing reports and budgets and analyzing the contents).

In school, tests measure performance in neat, structured, expected, limited situations. You study how to calculate the diameter of a circle, and you're tested on your ability to calculate the diameter of a circle. You study objective and subjective cases of pronouns, and the test items look like this: Maria and___I / me___ went to the football game.

At work, situations are fluid, natural, and often, unexpected. Thus, you need to be able to select—and apply—the right skill or skills for the right situation. Most often, a single skill isn't used in isolation; instead, skills are used in an integrated way in approaching real-life problems.

In school, there is usually one right answer to a given test item.

At work, problem situations have many possible answers. You need to be able to identify them and use decision-making skills to select the best one for the given situation.

In school, you get a single letter grade or percentage at the end of the term to "describe" your performance.

At work, you may get a yearly performance appraisal. Such appraisals often use rating scales, supported by written comments or actual work samples, to depict your level of performance on the job.

Learners need to be oriented to "nontraditional" assessment methods.

There's an irony in this. You may very likely be thinking, "But I thought many of these learners were in need of the workplace literacy program because of the failure of their relationship with the educational system (it failed them and they failed it). So, won't they welcome a non-school-like approach?" Maybe. More likely, they will ***expect*** a traditional approach. As much as they may have hated it, it's what they were used to. Some may perhaps find your new approach—despite its appropriateness to their role as adults—just as anxiety-producing as the system you're trying to avoid.

Remember, when you suddenly take an external structure away, the result is not always independence—it's chaos. Learners who have never been in a formal instructional situation that is not totally teacher-directed will need to be ***taught*** how to be independent, strange as that may seem. Therefore, it is critical that they be oriented to the new approach, provided early structure for dealing with "independent" tasks, and weaned slowly (according to the readiness of each individual) from teacher-directed instruction to taking more and more responsibility for their own learning.

Pre-assessment

The initial intake assessment is a key time to start orienting the learner to the "new" features of the program. You can make it clear that the learner is to be actively involved in the learning process by approaching the tasks at hand—diagnosis and goal-setting—as a collaborative effort. This is also the time to uncover and try to ease anxieties.

A standardized test is a test which is designed to be administered under specified conditions and which yields a norm-referenced score (i.e., a score established in reference to the performance of others who have taken the test).

Often the intake assessment involves a standardized test. These tests have been very popular for years because they are relatively easy and inexpensive to administer, but the literature today is full of criticisms concerning their use. For example:

- Such tests are often "normed" on children and express scores in terms of grade-level equivalencies (e.g., so-and-so reads at the first-grade level). For an adult learner, being compared to a first-grader can be embarrassing and demeaning. Furthermore, this does not acknowledge the wealth of knowledge and experience the adult worker undoubtedly possesses—not an auspicious way to begin the program.
- The scores reflect well the achievement of large groups (e.g., seniors in the public schools) but are not useful for diagnostic purposes.
- Such tests have typically measured an academic type of literacy, not even life skills. Thus, their usefulness as diagnostic tools for a ***workplace*** literacy program is limited. Likewise, if the program is targeted to the development of basic skills in the functional context of the workplace, a post-test focusing on general literacy skills is unlikely to reflect the skills learned in the program.

- Decontextualized, discrete basic skills are typically assessed, not the application of integrated skills in a natural process (e.g., "writing" skill is assessed not through judgments of a writing sample but by scores on separate objective tests covering spelling, grammar, usage, and vocabulary) or the use of critical thinking skills.

Or, to adapt the words of E. Grady to the adult learner, "Our students deserve to be treated like real people, not ciphers in a stanine. There are no standard [adults]; why should we assume that our evaluation of them should be standardized."[1]

Nevertheless, standardized tests may have a place in the workplace literacy program for a number of good reasons. One is that a sponsor or funding agency may require their use. Programs funded by the U.S. Department of Education's National Workplace Literacy Program, for example, must provide pre/post-assessment standardized test scores to external evaluators for use in evaluating program effectiveness. Another reason is that if you can administer the test in as nonthreatening an environment as possible (consider calling it a *locater* of information concerning strengths and needs, not a *test*) and use the test results in a constructive manner, you can help learners begin to lose their fear of testing and become better test takers. Many individuals in workplace literacy programs will need to take standardized tests to meet some of their goals (e.g., to obtain employment in a civil service position, to successfully complete a GED program, to qualify for a promotion, to enter a two-year postsecondary or university program).

Perhaps the best reason for their use is that, used wisely, they can provide very useful information about a learner's strengths and weaknesses. If you score the test booklets yourself, you get far more than the resulting score. You also get a good look at the learner's work; you can identify which items were consistently answered correctly and which items caused problems. The learner's strengths and weaknesses, albeit related to general literacy skills, should become obvious, and this provides a good starting place for further discussion.

By going over the test results with the learners (focusing on the items, not the scores), the test can become a learning experience. On the one hand, you can use the results to identify and highlight their many strengths. You can use metacognition, having them explain how they arrived at answers, to identify the processes they use, misuse, or fail to use. You can help them make the connection between abstract test items and real-world situations and explain general strategies to use in responding to types of items, all of which can help them become better test-takers in the future.

There are many such tests available:

- *Comprehensive Adult Student Assessment System (CASAS)*—San Diego Community College Foundation and the CASAS Consortium (a group of 45 agencies providing ABE, ESL and vocational ESL in California)
- *Tests of Adult Basic Education (TABE)*—CTB/McGraw-Hill
- *Reading Evaluation Adult Diagnosis (READ)*—Literacy Volunteers of America

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1. E. Grady, *The Portfolio Approach to Assessment*, Fastback 341 (Bloomington, IN: Phi Delta Kappa Educational Foundation, 1992), p. 8. (ED 356 273)

- *General Aptitude Test Battery (GATB)*—U.S. Department of Labor
- *Basic Occupational Literacy Test (BOLT)*—U.S. Department of Labor
- *Degrees of Reading Power* (which includes cloze passages)
- *Wide-Range Achievement Test (WRAT)*
- *Woodcock Test of Language Proficiency*

Two standardized tests that have been used extensively and successfully in the National Workplace Literacy Program conducted by The Ohio State University's Center on Education and Training for Employment and College of Education are—

- *ETS Tests of Applied Literacy Skills*—These tests assess prose literacy and document literacy using the kind of materials adults could be expected to deal with in their daily lives (Educational Testing Service).
- *Adult Basic Learning Examination (ABLE)*—This battery of tests is designed to measure the level of educational achievement among adults (basic skills in reading, mathematics, and the language arts) using items with adult-oriented content (Bjorn Karlsen and Eric F. Gardner, The Psychological Corporation, Harcourt Brace Jovanovich). The OSU staff use the sections on number operations and problem solving.

Staff of the OSU project indicate, however, that common sense should apply when administering the tests. If during the initial contact, the learner displays a high level of test anxiety, it is generally best to use alternative diagnostic tools to begin with. There's a fine line to walk in that regard. Pre/Post testing is most useful when it's "pure," reflecting the learner's level ***before*** instruction and at the ***end*** of instruction. If you spend a lot of time working with the learner using one-to-one diagnostic techniques before he or she takes the standardized test, you could raise his/her level of basic skills in the process. The test results would not then reflect the true pre-instruction situation.

Interviews provide an opportunity for maximum student involvement.

What other diagnostic assessment tools are used? You can interview the learner to determine his or her perceptions of strengths and needs and to identify learning goals. The Workplace Development Plan described in the learning guide on individualizing instruction could provide the structure for such an interview. The word *interview* is perhaps misleading since it implies something the interviewer does ***to*** the interviewee. Once again, it is important to remember that diagnosis should be a collaborative effort. Your interview questions should be designed to draw out the learner and acknowledge him or her as the ***expert*** concerning his/her literacy beliefs, strengths, needs, and goals. Maybe quizzes covering discrete skills and assigning of grades are something the learner really likes and finds motivating. This is important information. If the program is to be ***learner***-centered, do you eliminate such activities for the "learner's own good" whether he/she likes it or not?

Cloze tests and reading aloud can also be used to gather diagnostic information.

Other tools such as the cloze test (described in the learning guide on using workplace resources) or reading aloud from workplace materials (or materials authored by learners in earlier programs) can also be used at this point to gather diagnostic information, either to supplement the standardized test results or to gather information from a test-anxious learner prior to administering the standardized test.

Assessment During Instruction

Alternative assessment tools work best for measuring performance in a functional context.

With a functional-context curriculum, the tests used should be those you and the learners devise yourselves to fit the workplace situation and the objectives to be achieved. These will most likely be *alternative* assessment devices. Alternative to what? Generally, the term is used to describe assessment tools used as an alternative to commercially available, norm-referenced standardized tests—"outside-in methods that make adults the object of someone's scrutiny."[2] Specifically, it refers to "authentic" assessments in which performance in real-world situations is assessed using *criterion-referenced* measures (i.e., performance is not compared to the "norms" established by the performance of other individuals; it is measured against established standards, or criteria).

According to *A Practical Guide to Alternative Assessment*—

> Evidence from contemporary cognitive psychology . . . indicates that learning . . . is an ongoing process during which students are continually receiving information, interpreting it, connecting it to what they already know and have experienced (their prior knowledge), and reorganizing and revising their internal conceptions of the world, which are called "mental models," "knowledge structures," or "schema." . . . People do not merely record factual information but create their own unique understandings of the world—their own knowledge structures. To *know* something is not just to passively receive information, but to interpret it and incorporate it into one's prior knowledge. In addition, we now recognize the importance of knowing not just how to perform, but also when to perform and how to adapt that performance to new situations. The presence or absence of discrete bits of information, which is typically the focus of many traditional multiple-choice tests, is not of primary importance in the assessment of meaningful learning. Instead, we care more about how and whether students organize, structure, and use that information to solve complex problems.[3]

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2. S. L. Lytle et al., "Learner-Centered Literacy Assessment: An Evolving Process," in *Participatory Literacy Education*, edited by A. Fingeret and P. Jurmo (San Francisco, CA: Jossey-Bass, 1989), p. 54.

3. J. L. Herman, P. R. Aschbacher, and L. Winters, *A Practical Guide to Alternative Assessment* (Alexandria, VA: Association for Supervision and Curriculum Development, 1992), p. 14. (ED 352 389) © 1992 by ASCD. Used with permission.

The same source lists the following common characteristics of alternative assessments:

- The device asks learners to perform, create, produce, or do something.
- The device taps higher-level thinking and problem-solving skills.
- The device uses tasks that represent meaningful instructional activities.
- The device invokes real-world applications.
- People, not machines, do the scoring, using human judgment.
- The device requires new instructional and assessment roles for teachers.
- The device stresses the importance of examining the processes as well as the products of learning.[4]

One item from the previous citations requires further clarification here. Notice that it doesn't say, "Throw out all multiple-choice tests." It says they are not the ***primary*** focus. Actual performance in a functional context is the primary focus, but multiple-choice items and other objective test items (e.g., completion, true/false, matching) still may have a place in the program if facts must be memorized and tested prior to "actual performance."

Another critical point is to be very clear about what is meant by assessing *process*. The literature on metacognition tells us that helping the learner think about the processes they use in attacking a literacy task is highly instructive, both for the task at hand and as a strategy for approaching future tasks. There is another, different meaning attached to process assessment that is not constructive. Assume that students in a high school English class are assigned to write eight essays during the term and that, as a result of excellent feedback, each subsequent essay improves. Yet their final grade will be an *average* of the scores on all eight essays; the students are graded not on the *learning* that ultimately occurred but on their struggles throughout the learning *process*. Performance-based assessment strategies avoid this pitfall.

Learners also often enjoy documenting quantitative gains: number of books read, number of times a skill was applied on the job, number of reports written, and so forth. Having them document these numbers using a chart, table, or graph can tie math and communication skills together in a functional way and help them master the use of these graphic tools. Learners can also gain skills in self-assessment by being asked to teach a peer how to perform a literacy task; this authentic activity involves metacognition and can be a very enlightening process.

In subsequent readings in this learning guide, we will be exploring two alternative assessment tools of great value in workplace literacy programs: competency/performance-based assessment and portfolio assessment.

4. Ibid, p. 6.

Post-assessment

Post-assessment allows you and the learners to identify—and celebrate—progress in comparison to the pre-assessment scores. Standardized tests are again usually used. These tests are designed so that you can use one form as a pretest and another form, covering comparable content and skills, as a posttest.

Final assessment of the literacy skills specifically targeted by the objectives for the program can be carried out using the same tools used throughout the program (e.g, competency/ performance-based assessment and portfolio assessment).

Program Evaluation

Learner assessment is part of (but ≠) program evaluation.

The data you gather about learner achievement and pre/post progress through your learner assessment devices are certainly a key component in any program evaluation effort. Nonetheless, learner assessment does not equal program evaluation, and it's important that you ensure the integrity of learner assessment and that a concern for program evaluation not be allowed to distract your focus away from securing the information that you and the learners need to operate a meaningful and effective workplace literacy program on a day-to-day basis. According to Jurmo—

> Adult educators . . . have as a field been pushed into trying to do our jobs with limited training, inappropriately prepackaged materials and assessment tools, meager salaries and benefits, and instructors who are generally not from the same socio-economic backgrounds as the learners they are supposed to be serving. In workplace programs we are being pushed to focus on "the bottom line" when in fact we know that employee basic skills education is much more than just fine-tuning workers' technical skills to "increase corporate profits." Enlightened business leaders don't use that kind of dehumanizing rhetoric, and we shouldn't fall into the trap of adopting that kind of talk because we think it will please corporate and public funders. We need to learn how to negotiate with the business community without selling ourselves short. We need to be sure that we get the training, appropriate assessment systems, and other resources we need to do a good job. And we need to make it clear . . . that effective basic skills programs require much more than quick fix solutions.[5]

Philippi states that—

> Whenever companies evaluate training programs, they generally assess effectiveness on four different levels: (1) Does the proposed training program match a critical organizational training need? (2) Do employees who participate in the training master the content of the program? (3) Does mastery of training impact positively on job

5. P. Jurmo, "Workplace Education: Beyond the 'Quick Fix,' " paper presented at the statewide conference, Workplace Education: Today & Tomorrow, Worcester, Massachusetts, March 1990, pp. 17-18.

performance? (4) Does changed job performance result in cost benefit to the organization?[6]

All four levels are critical to determining overall program effectiveness, but for the instructor immersed in program delivery, the primary focus should be on Level 2. If the literacy program managers or workplace officials wish to gather program evaluation information, this should be negotiated separately.

The questions program evaluation usually seeks to answer for program providers and workplace officials include the following:

- Who did the program serve (demographics)?
- How many hours of instruction were provided? How much time was provided to learners outside class (e.g., individual conferences or office hours)?
- How were available resources allocated?
- What instructional approaches were used?
- What measurable gains did learners make as measured by pre/post devices (e.g., rating scales, standardized test scores, cloze test results)?
- What competencies did learners achieve as measured by performance tests, portfolio assessments, and other learner in-course assessment devices?
- What quantitative measures of program success are available (e.g., increased enrollments, program retention and completion rates)?

· impact has the program had on worker performance on the job? What changes in ance or attitudes have supervisors noticed? What changes in performance or es do workers report? What changes can be documented through quantitative sures (e.g., improved attendance rates, decreased defect rates, productivity gains, reduced customer complaints, promotions or other positive changes in job status)?

Tests, site visits, interviews of workers and supervisors, questionnaires completed by workers and supervisors, samples of materials produced on the job, and workplace records can all be used to help answer such questions.

Evaluators tend to talk about formative and summative evaluation devices. *Formative* devices help "form" instruction; they provide feedback that allows you to make in-course adjustments to improve the instructional program in response to learners' needs and progress. *Summative* devices "sum up" the effectiveness of the program. But again, those are their *primary*, but not their sole, purposes. Formative assessment results usually feed into summative evaluation, and summative evaluation results must be used to form subsequent program offerings. If program improvement is an end in itself—a report filed away—then its usefulness is limited. The results must be used for the purpose of program ***improvement***.

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6. J. W. Philippi, "Basic Skills/Workplace Literacy Training," in *Human Resources Management & Development Handbook*, 2nd ed., edited by W. R. Tracey (New York, NY: AMACOM, 1994), p. 893.

Note, too, that program evaluation results can be used to inform both your future program offerings and, if shared, those of the field in general. Documenting the planning, implementation, and evaluation struggles and successes of your program in the form of a report submitted to the ERIC database or an article submitted to a journal or newsletter focused on literacy education can help others in their efforts to provide effective programming.

Reflection on Reading 1

- Develop a list of questions you could use during an intake interview. Try to design the questions so that they not only draw out the information needed for program design but also serve to relax the learner and ensure that the process is a self-exploration and a collaboration, with the learner the subject, not the object, of the interview.

- Have you taken a standardized test recently (e.g., for entry into employment or undergraduate or graduate study)? How did the experience affect you? What emotions did you feel before, during, and after the process? Did you enjoy performing within the time limits established?

  Locate a copy of one of the standardized tests listed on pp. 9-10. (If you need help in locating such a test, check with your literacy program managers or counselors, individuals responsible for the local public school adult education program, or staff at a university or local library.) Take the test yourself according to the standards prescribed, including time limitations.

  Translate your thoughts and reactions concerning your own experiences in taking standardized tests into a set of guidelines for using such tests in the workplace literacy programs in which you teach.

Competency/Performance-Based Assessment

When applied to a workplace literacy program, competency/performance-based assessment should have the following three defining characteristics:

- Assessment tools derive from and focus on the ***competencies*** to be achieved—the workplace literacy tasks described in the performance or enabling objectives.
- Assessment tools require actual ***performance*** of the literacy task in a functional context (although factual knowledge may be tested separately, using paper-and-pencil methods, as a prerequisite to actual performance). Ideally, performance requires the integrated use of a number of related basic skills, as well as critical-thinking skills (e.g., problem solving and decision making).
- Performance is measured against established process/product ***criteria***.

Devising the Problem Situation

The problem situation starts with a literacy task selected for the program; for example, *Prepare a written report describing an equipment malfunction.* For the learners to perform this task, however, they need more information. What equipment? What kind of malfunction? When did it occur? How often? In short, they need a description of the job-related problem situation: a scenario. Use of scenarios is also an extremely effective way of ensuring that assessment requires learners to apply their full ***repertoire*** of basic skills in a functional context.

But, you say, I'm a literacy teacher; what do I know about the job situation? Scenarios can come from a variety of sources:

- If you are familiar with the job situation, you can devise them yourself.
- You can draw on the information base established as part of the job and literacy task analyses to identify and devise problem scenarios.
- If you have a good relationship with job supervisors in the workplace, they can be tapped for the specific information you need to develop such scenarios.
- Learners can develop scenarios—working alone, in small groups, or together with the instructor as a total-class activity.

By involving the learner, you can accomplish several very important purposes. Instruction becomes more learner-centered, participatory, and collaborative. The problems described are those that actually constitute (or are perceived as) real problems for the learners. In order to express those problem situations, the learners must communicate: write or speak and listen. They may need to refer to written materials—to read—to provide all the facts of the scenario, and they will certainly need to read it once it's written.

Let's look at some guidelines for scenario development.

Scenario Development

A Workplace Scenario

"There are things I want to say and do, but I don't feel that I can." Jerry's words, sometimes stuttered, reflect insecurity and lack of confidence, especially in his oral communication skills. Jerry's supervisor in the automotive plant sees him as a good and dependable worker who keeps to himself in a shell of shyness. As in many manufacturing companies, the work unit has converted to a teamwork mode of operation, and Jerry is not able to contribute, nor does he volunteer to take a turn at leading the group meetings. Supervisors are being asked to assess evidence of teamwork as a criterion for job evaluation. Now Jerry and a team of coworkers have been asked to give a presentation to some visitors from headquarters on the steps they take to improve quality and reduce damaged parts.

Articulating the problem or decision point in some form is developing curriculum. The learners can write down, tape record, or discuss the situation. They are describing ***scenarios***.

It often helps to encourage them to visualize and "replay" a scenario in their mind almost like a videotape, describing it as it plays out and including their thoughts and reactions as well. (In fact, another option is to role play and videoplay the scenario.) It may be most comfortable to begin with situations that are not highly personal or emotionally charged, because the next step is to share the scenario to find out if it is clear to others. This leads to discussion and refinement, full of opportunity for building communication and teamwork skills.

A scenario might also be termed a *case study*, especially if it is more lengthy or complex. And, if the situation has some characteristics of reality but is generated for the purpose of acting out or practicing situations that cannot be dealt with under actual conditions because it would be unpractical or unsafe, it becomes a *simulation*. Simulations can be simple and brief (mini-simulations) or lengthy and complex.

A Vacation Simulation

A group of 14 neighbors has decided to take a 1-week hiking vacation together in a state forest about 100 miles from home. You are one of a team of three who have volunteered to plan and guide the trip. The third day out, one of the neighbors, a single woman, comes to your team as you are reviewing the map for the day's trail. She announces in a panicky voice that her wallet is missing. She says it contains about $80 in cash, her traveler's checks, her driver's license, and all her credit cards. She thinks she might have left it at a rest site along the trail where the group stopped the day before and she made a credit card call. Your team needs to decide how to handle the situation.

SOURCE: The information on scenario development on pp. 18-19 was adapted from S. Imel, S. Kerka, and S. Pritz, *More than the Sum of the Parts: Using Small Group Learning in Adult Basic and Literacy Education* (Columbus, OH: Center on Education and Training for Employment, 1994), pp. 58-59. (ED 368 905)

The steps in developing a scenario are as follows:

1. ***Identify desired characteristics.*** Consider medium, level of communication or reading, materials and equipment, classroom or beyond.

2. ***Select a topic.*** What needs to be accomplished? What has gone wrong? What are people struggling with? What dilemmas have they been in? Where do they need more time, more resources, less stress?

3. ***Describe the setting.*** What do people need to know about the environment?

4. ***Describe the situation.*** What is the background, and what are the facts?

5. ***Describe the roles of different people in the situation.*** Who is involved? What responsibilities do they have or think they have? What are their feelings about them?

6. ***Identify the problem or goal.*** A decision to be made? Priorities to be set? Error to be corrected?

7. ***State the criteria for the solution or outcome.*** Quality? Accuracy? Speed?

8. ***Decide how much "help" to include.*** Will you break down the problem and provide directions or basic skills information for the solution process? Will you show a method that leads to one correct or acceptable solution? Will you show a sample of a completed product?

Scenario: A Working Mother's Dilemma

For the sixth day in the past 3 weeks, the local schools have cancelled classes as a result of snow and cold weather, and Evelyn, a single parent, has missed work on three occasions as a result. When Evelyn doesn't work, she doesn't get paid.

Earlier in the year, her 6-year-old son had the mumps, and she missed several days at her part-time job when she was unable to arrange for her mother or her neighbor, Sue, to stay with him. During her son's illness, she also missed most of her GED preparation classes.

Although Evelyn's boss is understanding, she knows he is beginning to feel frustrated about the work she has missed, and she fears he may be thinking about replacing her. She is also afraid that she will not be ready to take the GED exam next month. She is beginning to wonder whether she will ever be able to make a better life for herself and her three children.

Your group has been asked to help Evelyn seek realistic solutions to her current situation.

9. ***Provide closure.*** Say, in concrete terms, what to do with the solution. Explain the real consequences and why they are important.

Scenarios may also be called *case studies* or *case situations*. As defined by the Center on Education and Training for Employment for use in the development of competency-based learning guides—

- A ***case study*** describes a complete situation, including its solution. The learner's job is to critique the process used and results obtained. What did the individual(s) described in the case study do right? What was done incorrectly? How could the process/results be improved?
- A ***case situation*** is open-ended. The problem situation is described, and it is up to the learner to devise one or more appropriate solutions.

The situation should be as close as possible to the actual situation a worker might face on the job. The same materials and conditions should be provided.

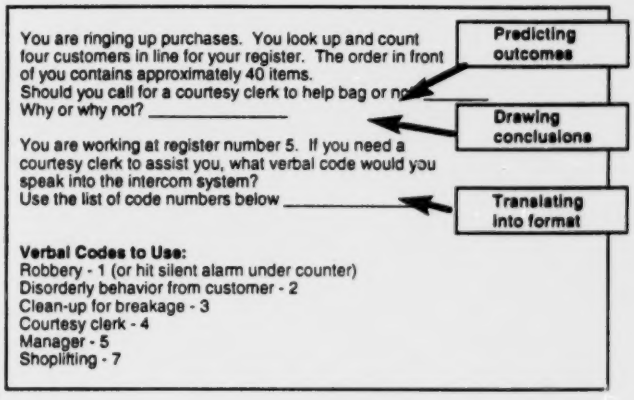
Consider, then, the previous literacy task involving the reporting of an equipment malfunction. As a whole class, the learners could identify a typical workplace problem involving an equipment malfunction. Depending on the competency level of the learners, the instructor could ensure that the information required for the report was elicited or could make learners responsible for making sure they specified all the information they need. The situation could be described only orally, with learners taking notes; or the descriptive information could be summarized on a chalkboard or flip chart for future reference. The learners could then individually develop equipment malfunction reports. If workers on the job would need to refer to equipment manuals or specifications or policy/procedure manuals in reporting the malfunction, then they should do so in the assessment situation as well.

Philippi emphasizes that when performance is assessed using scenarios and job procedural documents, the test questions—

> . . . should be designed to require the learner to demonstrate ability to perform the skill applications in each of the [literacy] task clusters to be tested. The questions should not be focused on literal comprehension . . . but rather emphasize the thinking necessary for identifying and using the information the document contains. For example, do not ask questions like, How many extension tabs are on the red cap? This does not require the learner to process information by utilizing text organization cues, such as boldface type and numbers, to locate specific steps. Instead, ask questions like, You need to install a replacement needle container. Under what heading should you look to locate information about assembling it? This type of question requires the learner to demonstrate understanding of what a heading is, skim text to match the key words in the question to key words in the document headings and locate the appropriate heading, and skim the text information given under the selected heading to determine its content relevance or irrelevance to the question.[1]

1. J. W. Philippi, "How to Design Instruction: From Literacy Task Analyses to Curriculum," in *Basic Skills for the Workplace*, edited by M. C. Taylor, G. R. Lewe, and J. A. Draper (Toronto, Ontario: Culture Concepts Inc., 1991), p. 253. (ED 333 180)

She provides the following example of a job task simulation item designed to test the ability of a learner in a program for cashier-clerks to draw conclusions, predict outcomes, and translate decisions into appropriate format (codes) for performance of two subtasks (*Make decisions for bagging* and *Use verbal codes*) for the task, *Ring up purchases*.[2]


You are ringing up purchases. You look up and count four customers in line for your register. The order in front of you contains approximately 40 items.
Should you call for a courtesy clerk to help bag or no
Why or why not? _____
Predicting outcomes
You are working at register number 5. If you need a courtesy clerk to assist you, what verbal code would you speak into the intercom system?
Use the list of code numbers below _____
Drawing conclusions
Translating into format
Verbal Codes to Use:
Robbery - 1 (or hit silent alarm under counter)
Disorderly behavior from customer - 2
Clean-up for breakage - 3
Courtesy clerk - 4
Manager - 5
Shoplifting - 7

Establishing the Performance Standards

One of the reasons objective items (true/false, multiple-choice, etc.) have been so very popular is that they are, when well developed, *objective* rather than subjective. Grading an essay is harder because subjective judgment is involved. The trick is to ensure that professional judgment is tempered by established criteria defining the process and product standards expected. In workplace literacy programs, standards should come, at least in part, from the standards expected of the job.

Learners can also be involved in identifying criteria. As workers, they should be familiar with the established job standards, although they may not call them "standards"; helping them to verbalize those standards in class can make them aware of what they know about the standards of the job. On the other hand, meeting the standards of the job may not be an immediate possibility for a given learner. In that case, the learner could be involved in determining the ***interim*** standards he or she would like to meet?

How will those equipment malfunction reports be evaluated? Criterion-referenced checklists often measure process, product, time, attitudes, or a ***combination*** of those elements.

- A *product* is something tangible, like a written report or a calculated budget. Sometimes measuring the product alone can tell you everything you need to know; the learner could not have produced an acceptable product unless he or she followed the correct process.
- The *process* followed in performing the literacy task should be evaluated if you want to track the steps the learner performed. You may want to know, for example, whether all the words are spelled correctly in the learner's written report because the learner knew how to spell them, or did he or she use a dictionary, or did the computer's spell-checker do the job? Assessing process can also serve to ensure that the learner doesn't short-circuit any critical steps in arriving at an acceptable product. Process will also be the focus in tasks without a tangible final product (e.g., *Greet visitors to the office*).
- Often, *attitudes* are crucial on the job. The report must not only be written, it must be submitted on time and prepared with a concern for neatness and readability. Information must be communicated orally to co-workers and supervisors not just accurately but also

2. Ibid., p. 252.

professionally. To measure attitudes, you need to determine what ***behaviors*** would indicate their presence. If the worker is "courteous" in dealing with customers, what does he/she do (e.g., says please and thank you, acknowledges the customer's point of view as valid, volunteers to go the extra mile, maintains a pleasant facial expression).

- Sometimes important *time* factors must be measured. If a worker notices an unsafe condition, for example, it may be crucial that he or she be able to communicate the facts of that situation instantly to co-workers and supervisory personnel.

When these criteria are listed together with a rating scale, it's called a *checklist*. Each checklist should have the following important qualities:

- The checklist should be short enough to make it practical to use. Perhaps 5 to 10 items are sufficient for a simple skill, 10 to 20 items (at the most) for complex skills.
- The criteria included must be critical to successful performance of the skill. Minor or trivial criteria just make the assessment job more difficult and time-consuming.
- Each criterion should have some qualitative base. It is not enough to record that the learner did something (e.g., *developed criteria for assessing performance* or *used capital letters*); he or she may have done it poorly or very well, and this needs to be shown (*developed appropriate and complete criteria for assessing performance* or *capitalized the first word in each sentence and all proper nouns*).
- The items must be simple and unambiguous—quickly read and understood by the learners and the busy instructor.
- Items should be stated in parallel terms (e.g., all in the past tense).

Various rating scales may be used; for example, yes/no, not acceptable/acceptable/outstanding, poor/fair/good/excellent. Bear in mind that learners, because they're learners, may not be able to make distinctions concerning level of performance, so you don't want to devise a 7-point scale for your checklists. Consider, too, that the simple yes/no rating scale has in its favor emotionally freighted terms like "poor" and "not acceptable." The rating device used in this learning guide is even simpler: you check the box only if the standard was met.

To return once more to our original literacy task, what might be some process/product criteria for the task, *Prepare a written report describing an equipment malfunction*?

In preparing the written report, did you—

1. identify the equipment by serial number?
2. indicate the date and time of day (24-hour clock) when the malfunction occurred?
3. describe the exact nature of the malfunction (e.g., sounds made, visual cues, operational problems, effect on product)?
4. indicate, step by step, the actions you took in response to the malfunction?
5. identify any potential safety hazards involved?
6. suggest any possible causes for the malfunction based on observation or past experience?

Was the completed report—

7. brief and to the point?
8. clearly and simply stated?
9. neat and organized in a way that would be easy to read?
10. directed to the appropriate person or office for action?

Administering the Performance Test

The test should not be something you ***do to*** learners. They can be actively involved through self-assessment. In competency-based vocational programs, for example, the learning guides are frequently designed so that learners practice the given competency and assess their performance against established (explicit, not secret) criteria until they feel competent. It is then up to them to contact the instructor for "final" assessment—to say, "I'm ready." Ability to self-assess is a useful quality on the job.

In addition, take a look at the final checklist in this learning guide. On the left is a place for learners to rate their own performance; on the right, a place for instructor ratings. Even on final performance, learners can be involved in the rating process. Differences in learner and instructor ratings provide a good starting place in the discussion that should follow assessment. By comparing and discussing differing ratings, you can help the learner become a more accurate self-assessor in the future.

And if performance is not successful, the learner does ***not*** get a grade and move on. Part of the follow-up discussion in that case would be to jointly devise additional learning activities to help the learner gain the competence required. The learner would then pursue those activities, practice, self-assess, and request instructor assessment once again. The learner would continue to "recycle" until competence is reached. Clearly, it is important to present this as a natural ***learning process*** and not a ***test-fail-retest sequence***.

Learner progress through the program, therefore, is not determined by grades earned on units covered and left behind. Rather, it is measured by the *number of objectives achieved*—the number of literacy skills demonstrated successfully—as measured by the established or prescribed criteria.

Revisiting Skills

Critics of the competency/performance-based approach like to point out that just because a learner performs well once, it doesn't mean they could perform equally successfully 3 weeks from now. (These critics do not seem to notice that the same complaint could be justifiably leveled at traditional educational approaches. Cram for the test, take the test, forget the material.) Nevertheless, the concern is a valid one. Thus, as learner's skills build, provide test situations that require them to use (and assess) acquired skills as well as new ones—preferably in an integrated way. This not only ensures that the skills have really been "acquired,' it also serves to reinforce those skills.

- Outline a set of directions for scenario development that you could use in introducing the process to learners in a workplace literacy program. Using that outline, explain the process to one or more peers (fellow instructors, family members, friends), and have them paraphrase the process back to you. Had they understood the process correctly and completely? If not, what did they miss? Did they ask questions that indicated your directions had been incomplete or confusing? How would you revise your outline to make your explanation clearer in the future?

- If you had to prepare a meal and wanted to serve the dish you make best, what would that be? Now, picture yourself making this dish and then visualize the final product. Name at least five criteria you could use to evaluate the *process*. Name at least five criteria you could use to evaluate the *product*. Do any attitudinal elements (e.g., safety) apply? How could you state them in observable, behavioral terms? Are time elements important? If so, include a standard related to time?

Portfolio Assessment

Learners in a workplace literacy program that possesses the characteristics described in these learning guides will complete many authentic job-related literacy tasks involving reading, writing, speaking, listening, calculation, computation, and critical thinking (e.g., problem solving and decision making). Dated artifacts of all these tasks—drafts, final versions, completed exercises, projects, performance tests, audio- or videotapes—can be kept in a *working folder* to provide a total record of the learner's work. When special pieces are selected from the folder and moved to another, special folder, then the learner has created a *portfolio*. Pieces can be selected for different reasons: to show representative work, to showcase best or favorite work, or to show progress, for example.

Having students maintain folders and portfolios is an excellent way to keep the focus on both process and product and to provide a basis for students to review and reflect on their progress as learners in reference to actual work rather than abstract, reductive scores and grades. Unlike material that is "done" once it has been graded, the working folder's contents belong to the learner and can be revisited at any time to be reworked using newly gained skills, increased competence, or fresh insights. This, too, reflects the real world. The portfolio, on the other hand, can serve as a permanent record of achievement.

But portfolios aren't just a repository of already assessed things; this is an assessment process. The contents of the working folder are used to promote learners' reflection about and assessment of their own work and, perhaps, the work of their peers. Structured assessment activities can be devised related to the *selection* of materials for the portfolio. For example:

- Learners can be asked to review the material in their working folder and pick their favorite or best piece and describe, in writing, what they liked about it, what they learned from doing it, and why they consider it their "best" piece.[1]
- Learners can select two analogous final products developed at different points in the program and compare them to identify indicators of progress.

In each case, the written reflections and evaluations become a part of the portfolio, perhaps as a cover page to the documents assessed or in a separate portfolio log. If materials are judged by others (peers, instructor, others outside the program) as part of the selection process, those "judges" should provide narrative reviews as well, and these, too, should become part of the portfolio record.

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1. H. A. Fingeret, *It Belongs to Me: A Guide to Portfolio Assessment in Adult Education Programs* (Durham, NC: Literacy South, 1993), p. 26. (ED 359 352)

These activities can be carried out individually, or learners can collaborate as partners or in teams. Particularly early in the program, collaboration can be helpful. A learner could, for example, identify three favorite pieces and find it difficult to choose just one. A "second opinion" from a peer can provide additional insight and evaluative information that can help in making the final decision. Or, a supportive peer can help identify a "best" piece, with some admirable qualities, in the folder of a learner who's not sure anything there is of value.

Grady suggests other questions that could be used to structure learner's reviews and assessments of the work in their folders; these were used in a writing class, but they could be easily adapted to other literacy tasks:

- Look back over your work for this semester and discuss the strategies you used for creating it. Think about specific essays. Which were easy for you? Which were most difficult? What have you learned about your methods this semester?
- What do you like about your writing? What do you feel are your strengths? Be as specific as you can; cite essays if possible.
- What are you dissatisfied with in your writing? What areas do you feel need improvement?
- In what specific areas have you grown this semester?
- Discuss your target paper. Why did you choose it? What did you do to revise it to make it representative of your best work?[2]

The word *structure* is very important in the use of portfolio assessment. No meaningful assessment of a potentially huge folder full of stuff can occur without it. The first step is to work collaboratively with the learners to answer some planning questions related to that structure.[3] For example:

- Will materials from every area of instruction be saved or from just a few selected areas (e.g., written materials only)? This can be a crucial question, particularly if you or the learners are new to portfolio assessment. Those who have used the approach strongly recommend starting small. If different types of literacy tasks will be documented, maintaining separate working folders for each may be most practical.

  What types of materials will be collected: every scrap of paper generated or only certain things? If the latter, what will be the nature of those "things"? Will materials from outside class be included (e.g., lists of books read, family budget prepared)?

2. E. Grady, *The Portfolio Approach to Assessment*, Fastback 341 (Bloomington, IN: Phi Delta Kappa Educational Foundation, 1992), pp. 24-25. (ED 356 273)

3. Fingeret, op. cit., p. 4

- How often will materials be selected for the portfolio? The selection process can be painstaking and difficult, so selection activities should not occur too often. Furthermore, although reflection on one's work can be extremely valuable and exciting, if overused it can become tedious; documenting the reflection process in writing can easily become a routine chore rather than a stimulating learning experience.
- What criteria will be used for moving the material from the working folders to the portfolios? For example, should the portfolio ultimately contain a representative sampling of materials from various points in the learner's progress (what is "best" at different times) or the overall best materials? The criteria chosen should, of course, reflect program objectives.
- What process will be used for moving the material from the working folders to the portfolios? For example, will the learner make the decision alone, or will peers or the instructor or even outside "judges" participate in the decision-making process? (But remember, if this is truly to be the learner's portfolio, the *final* decision should be left to the learner.) Will the selection be justified in narrative form by the learner, or will checklists be devised for learners to use in the selection process; for example, a checklist of criteria defining what "best" means? (A rating scale and set of criteria used in two states for portfolio assessment are shown on pp. 28 and 29.)

Once such questions have been answered and a practical structure planned, implementing the approach should become much easier. To help provide the kind of initial guidance learners may need in *coping* with making decisions in the face of a folder loaded with material, one teacher has suggested the following procedure:[4]

- Ask the class, "If you were going to put all your work together in a book, how would you organize it?"
- Guide them in brainstorming to identify the many organizations possible (e.g., chronological, alphabetical, subject area, things loved and things hated, successful things and unsuccessful things).
- Then have students actually go through their material and organize it in some way. A great deal of dialogue will occur as they see observable progress—as they encounter things they struggled with once but now have mastered.
- Have them describe, in writing, the organization they chose.
- Once everything is organized, the assessment and selection process will generally seem less overwhelming.

4. Adapted from material by Melody Schneider cited in Fingeret, op. cit., p. 34.

CAP Generalized Rubric

(California Department of Education, Bureau of Publications, Sacramento, 1989)

Demonstrated Competence

Exemplary Response...Rating = 6
Gives a complete response with a clear, coherent, unambiguous, and elegant explanation; includes a clear and simplified diagram; communicates effectively to the identified audience; shows understanding of the open-ended problem's mathematical ideas and processes; identifies all the important elements of the problem; may include examples and counterexamples; presents strong supporting arguments.

Competent Response...Rating = 5
Gives a fairly complete response with reasonably clear explanations; may include an appropriate diagram; communicates effectively to the identified audience; shows understanding of the problem's mathematical ideas and processes; identifies the most important elements of the problems; presents solid supporting arguments.

Satisfactory Response

Minor Flaws but Satisfactory...Rating = 4
Completes the problem satisfactorily, but the explanation may be muddled; argumentation may be incomplete; diagram may be inappropriate or unclear; understands the underlying mathematical ideas; uses mathematical ideas effectively.

Serious Flaws but Nearly Satisfactory...Rating = 3
Begins the problem appropriately but may fail to complete or may omit significant parts of the problem; may fail to show full understanding of mathematical ideas and processes; may make major computational errors; may misuse or fail to use mathematical terms; response may reflect an inappropriate strategy for solving the problem.

Inadequate Response

Begins, but Fails to Complete Problem...Rating = 2
Explanation is not understandable; diagram may be unclear; shows no understanding of the problem situation; may make major computational errors.

Unable to Begin Effectively...Rating = 1
Words do not reflect the problem; drawings misrepresent the problem situation; copies parts of the problem but without attempting a solution; fails to indicate which information is appropriate to problem.

No Attempt ...Rating = 0

NOTE: A *rubric* is a category—in this case, a rating scale with categorical descriptions defining each rating level.

Mathematics Rating Form
(Vermont Mathematics Portfolio)

A body of mathematics work is evaluated on two major skill dimensions: problem solving and communication. Within each dimension, several subdimensions further define each of the larger skills. Ratings are given for the subskills under the two dimensions.[5]

[redacted] Student: _____ ID Number: _____ School: _____ Grade: _____ Date: _____ Rater: _____	**A1 Understanding of Task** **Sources of Evidence** • Explanation of task • Reasonableness of approach • Correctness of response leading to inference of understanding	**A2 How–Quality of Approaches/Procedures** **Sources of Evidence** • Demonstrations • Descriptions (oral or written) • Drafts, scratch work, etc.	**A3 Why–Decisions Along the Way** **Sources of Evidence** • Changes in approach • Explanations (oral or written) • Validation of final solution • Demonstration
Title _____ Entry 1 P I A O Puzzle Investigation Application Other			
Title _____ Entry 2 P I A O Puzzle Investigation Application Other			
Title _____ Entry 3 P I A O Puzzle Investigation Application Other			
Overall Ratings ➡	**Understanding of Task** **Final Rating** 1 Totally misunderstood 2 Partially understood 3 Understood 4 Generalized, applied, extended	**How–Quality of Approaches/Procedures** **Final Rating** 1 Inappropriate or unworkable approach/procedure 2 Appropriate approach/procedure some of the time 3 Workable approach/procedure 4 Efficient or sophisticated approach/procedure	**Why–Decisions Along the Way** **Final Rating** 1 No evidence of reasoned decision-making 2 Reasoned decision-making possible 3 Reasoned decisions/adjustments inferred with certainty 4 Reasoned decisions/adjustments shown/explained

A-4 What–Outcomes of Activities **Sources of Evidence** • Solutions • Extension–observations, connections, applications, synthesis, generalizations, abstractions	**B1 Language of Mathematics** **Sources of Evidence** • Terminology • Notations/symbols	**B2 Mathematical Representations** **Sources of Evidence** • Graphs, tables, charts • Models • Diagrams • Manipulatives	**B3 Clarity of Presentation** **Sources of Evidence** • Audio/video tapes (or transcripts) • Written work • Teacher interviews/observations • Journal entries • Student comments on cover sheet • Student self-assessment	**Content Tallies** Number Sense–Whole No. /Fractions (4) Number Relationships/No. Theory (3) Operations/Place Value (4) Operations (8) Estimation (4/8) Patterns/Relationships (4) Patterns/Functions (8) Algebra (8) Geometry/Spatial Sense (4/8) Measurement (4/8) Statistics/Probability (4/8)
What–Outcomes of Activities **Final Rating** 1 Solution without extensions 2 Solution with observations 3 Solution with connections or application 4 Solution with synthesis, generalization or abstraction	**Language of Mathematics** **Final Rating** 1 No or inappropriate use of mathematical language 2 Appropriate use of mathematical language some of the time 3 Appropriate use of mathematical language most of the time 4 Use of precise, elegant, appropriate mathematical language	**Mathematical Representations** **Final Rating** 1 No use of mathematical representation(s) 2 Use of mathematical representation(s) 3 Accurate and appropriate use of mathematical representation(s) 4 Perceptive use of mathematical representation(s)	**Clarity of Presentation** **Final Rating** 1 Unclear, (e.g., disorganized, incomplete, lacking detail) 2 Some clear parts 3 Mostly clear 4 Clear (e.g., well organized, complete, detailed)	**Task Characteristics** **Empowerment Comments** Motivation Flexibility Risk Taking Reflecting Confidence Perseverance Curiosity/interest Value Math

5. J. L. Herman, P. R. Aschbacher, and L. Winters, *A Practical Guide to Alternative Assessment* (Alexandria, VA: Association for Supervision and Curriculum Development, 1992), p. 72. (ED 352 389) © 1992 by ASCD. Used with permission.

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Like competency/performance-based assessment, portfolio assessment is uniquely suited to the nature of workplace literacy programs. It is learner-centered, focusing on the learner's own work and perceptions about it. All phases in the process—planning, implementation, and assessment—involve collaboration between the learners and the instructor and among the learners themselves. The materials used involve the literacy tasks the learner needs to perform in the workplace. They are authentic materials requiring the integrated use of basic skills, and often their development involves reflection and critical thinking. Perhaps the following best summarizes the value of this assessment approach—

> Teachers struggle with the relationship between their knowledge and judgments and those of their students during the process of assessing portfolios. There are questions about who sets the standards and who assesses the extent to which standards have been met. It should be remembered that this is not a standardized assessment process. You are not judging the extent to which students have met some predetermined standard set by outside experts in order to compare your students with others' work. You and your students negotiate the standards in relation to the instructional goals and the curriculum, and you have to negotiate progress together as well. It is important to use your knowledge to help students learn to see their own progress and to give students the benefit of your experience and expertise. *At the same time, it is important to learn about progress through the students' eyes, so that there is a richer overall understanding of learning and teaching in the end.*[6]

6. Fingeret, op. cit., p. 37.

Reflection on Reading 3

- Form, they say, follows function. Portfolios can be manila folders, accordion files, or decorated binders, to name just a few possibilities. Given that these portfolios will be used in a *workplace* literacy program, what physical forms might the portfolio take in order to fit the context? What type of "container" might be a real source of pride for adults in such a program?

- The reading suggested a handful of assessment activities that could be completed using the materials in the working folder. Can you suggest at least three more? If possible, conduct a brainstorming session with one or more fellow instructors and try to identify a variety of creative activities involving this approach.

- If a working folder of math materials were to be kept, what types of items might be in it? How could the activities suggested in the reading be adapted to such materials?

Assess Learner Performance

- Portfolio assessment is a very new approach in the field, and many of those using it suggest that the very best way for instructors to understand how it works and what it really requires is to use it themselves, reflect on the processes involved, and monitor the time requirements for various steps and activities.

  Since scenario development also may be new to you, let's combine these two components. Use the portfolio assessment approach as described in Reading 3 to develop your skill in scenario development, as follows:

  - ~ Plan the structure that will govern your use of portfolio assessment (including the time period to be covered), and document your plan in writing.
  - ~ Develop scenarios over a period of time and maintain them in a working folder.
  - ~ Complete reflective activities related to the assessment and selection of scenarios for your showcase portfolio. Use a variety of approaches (e.g., selecting the best, your favorite, two depicting progress) and "judges" (e.g., self-assessment, peer assessment) and attach all written reflections and narrative assessments to the selected material before placing it in the portfolio.
  - ~ Reflect on the total activity, and identify in writing what caused you to struggle, what surprised you about the process (good or bad), what you found exciting or gratifying about the process, and recommendations for improved use of the process in the future.

- Use the blank checklist on p. 35 as a guide in preparing a tentative list of criteria (process, product, time, and/or attitudes) for assessing your performance in completing the steps in above portfolio activity. Meet with the person responsible for evaluating your performance of the skills covered in these learning guides and ***collaboratively*** devise (negotiate) the final evaluation criteria to be used for your performance assessment. List those criteria on the checklist.

TOPIC: Assess Learner Performance

Evaluation Guidelines

Directions: Check your competency with the following criteria:

Learner Self-Check Did you—		Review Checklist Did the learner—
☐	1.	☐
☐	2.	☐
☐	3.	☐
☐	4.	☐
☐	5.	☐
☐	6.	☐
☐	7.	☐
☐	8.	☐
☐	9.	☐
☐	10.	☐
☐	11.	☐
☐	12.	☐
☐	13.	☐
☐	14.	☐
☐	15.	☐

Learner: _____

Reviewer: _____

Level of Performance: If the evaluation results indicate a need for further competency development—or if the learner wishes to pursue the topics covered in further breadth or depth—please refer to the supplementary resources described in the Annotated Bibliography, which follows.

Fingeret, H. A. *It Belongs to Me: A Guide to Portfolio Assessment in Adult Education Programs.* Durham, NC: Literacy South, 1993. (ED 359 352)

Anyone wanting to use portfolio assessment will benefit from the content of this document, which gives clear, practical directions for selecting, planning, implementing, and evaluating this approach. Sprinkled throughout the book are anecdotal comments from individuals throughout the country who have struggled with initiating and sustaining portfolio use and who are excited by its potential.

Grady, E. *The Portfolio Approach to Assessment.* Fastback 341. Bloomington, IN: Phi Delta Kappa Educational Foundation, 1992. (ED 356 273)

Though the focus of this document is clearly K-12, it is still worth a read for the adult literacy educator. The author briefly and effectively establishes a solid rationale for the use of portfolios and provides practical guidelines for how they can be used, what should go in them, and how to develop criteria for assessing their contents.

Jackson, G. *Measures of Adult Literacy Program Outcomes.* Washington, DC: ERIC Clearinghouse on Tests, Measurement, and Evaluation, American Institutes for Research, 1990.

This resource provides a comprehensive view of standardized tests for adult literacy programs, including the Adult Basic Learning Examination (ABLE), Tests of Adult Basic Education (TABE), and the Wide-Range Achievement Test (WRAT).

Lytle, S. L., and Wolfe, M. *Adult Literacy Education: Program Evaluation and Learner Assessment.* Information Series No. 338. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, 1989. (ED 315 665)

In an 18-page chapter on learner assessment, the authors describe/evaluate four major approaches to learner assessment: standardized testing, materials-based assessment (called curriculum-based assessment in other sources), competency-based assessment, and participatory assessment.

Lytle, S. L.; Belzer, A.; Schultz, K.; and Vannozzi, M. "Learner-Centered Literacy Assessment: An Evolving Process." In *Participatory Literacy Education*, edited by A. Fingeret and P. Jurmo, 53-64. San Francisco, CA: Jossey-Bass, 1989.

The authors provide a context for assessment by describing their assumptions about literacy, assessment, and learning, as well as the program for which the assessment process was developed. The phases they went through in developing their assessment process, as well as the expected and unexpected problems they encountered, are described; and the chapter ends with some recommendations for improved future efforts.

McGrail, L. *Adventures in Assessment: Learner-centered Approaches to Assessment and Evaluation in Adult Literacy.* Boston, MA: World Education/SABES.

The volumes in this ongoing series include articles written by adult literacy practitioners (including ESL) in which they talk openly and concretely about their experiences with alternative assessment. Many articles include examples of checklists, goal lists, writing assessment grids, and other tools that teachers have developed over the years. For ordering information, contact Liz Santiago, World Education/SABES, 210 Lincoln Street, Boston, MA 02111.

Mikulecky, L.; Henard, D.; and Lloyd, D. *A Guidebook for Developing Workplace Literacy Programs.* Bloomington, IN: Indiana University, School of Education, 1992. (ED 348 580)

Chapter 6, Methods of Evaluation, focuses primarily on program evaluation, including a good deal of detail about techniques that can be used to gather assessment data on a pre/post basis: interviews, questionnaires, and cloze tests. Particularly useful are the many sample items provided for gathering information about a learner's literacy beliefs, practices, processes, and plans. An addendum to Chapter 6 presents evaluation results of instructional impact of a model workplace literacy program, which could serve as a model for other program evaluation reports.

National Center for Research in Vocational Education, The Ohio State University. *Assess Student Performance: Skills.* 2nd ed. Module D-4 in the Professional Teacher Education Module Series. Athens, GA: American Association for Vocational Instructional Materials, 1983. (ED 234 161)

A performance-based instructional module designed to provide information and practice in the key concepts underlying assessment of psychomotor performance. Step-by-step directions, illustrated by examples, are provided for devising test situations and criterion-referenced checklists to assess the performance of job tasks.

National Center for Research in Vocational Education, The Ohio State University. *Provide Instructional Materials for CBE.* Module K-4 in the Professional Teacher Education Module Series. Athens, GA: American Association for Vocational Instructional Materials, 1986. (ED 266 277)

A performance-based instructional module designed to provide information and practice in the key concepts underlying the development of learning guides for a competency-based education (CBE) program. The objective of each guide is performance of a job task or related cluster of job tasks, and performance is measured through a criterion-referenced performance test. Specific instructions for developing such tests and process/product criteria are provided.

Portfolio News. A quarterly newsletter published by the Portfolio Assessment Clearinghouse.

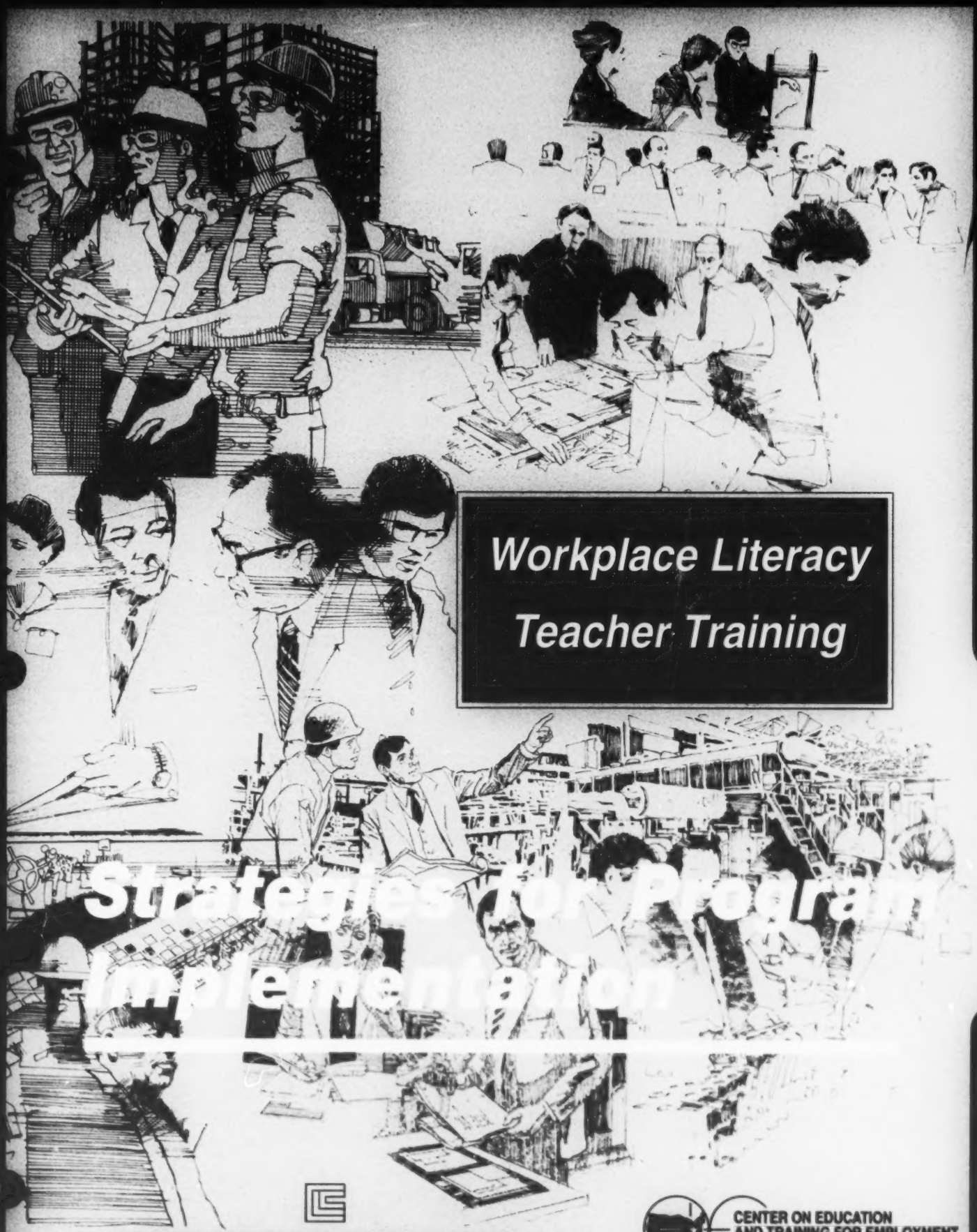
This newsletter includes articles written by educators about their experience with portfolio assessment, a literature review section, and an information exchange designed to assist networking among schools and projects engaged in portfolio assessment. Although focused on K-12, the information provided is often useful to adult literacy educators. Subscriptions are available for $25 from Portfolio News/Subscriptions, % San Dieguito Union High School District, 710 Encinitas Boulevard, Encinitas, CA 92024.

Short, D. J., and Grognet, A. G. *A Review of Workplace Literacy Tests and Testing*. Washington, DC: Center for Applied Linguistics, 1988. (ED 322 292)

The feasibility of using commercial tests and the necessity for determining job literacy requirements for employment positions are discussed; the tests most commonly used in the workplace are evaluated; and suggestions are offered for composing a workplace test.

Taylor, M. C. "How to Approach Worker Testing and Assessment." In *Basic Skills for the Workplace*, edited by M. C. Taylor, G. R. Lewe, and J. A. Draper, 183-202. Toronto, Ontario: Culture Concepts, 1991. (ED 333 180)

Designed to help practitioners decide which approach to use in the assessment of individual trainees, the chapter outlines workplace literacy requirements, describes several testing and learner assessment procedures, and highlights how these approaches may be applied in a workplace program. The content, development, and usability of three standardized tests are also reviewed: Canadian Adult Achievement Test (CAAT); Tests of Adult Basic Education (TABE), Forms 5 and 6; and The Gates-MacGinitie Reading Tests, Canadian Edition.



Workplace Literacy Teacher Training

Strategies for Program Implementation

Individualization Strategies

COLLEGE OF LAKE COUNTY 80

CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
COLLEGE OF EDUCATION
THE OHIO STATE UNIVERSITY

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Employ Strategies for Individualizing Instruction

Introduction

The learners in a workplace literacy group will possess differing levels of ability in all areas of basic skills, just as they do in Adult Basic Education (ABE) classes. They will be of different ages and genders, possibly of different cultures, and they will employ different learning strategies. They will undoubtedly be at different stages of cognitive development. Further, their attitudes toward learning will be different, partially based on their previous educational experiences and on their cultural values about learning.

Some instructors try to manage heterogeneous groups by teaching for the "middle" learners, which often implies ignoring the most and least able and concentrating on the rest of the group. However, other ways of working with heterogeneous groups are introduced in this learning guide.

Multi-level instruction is one means of dealing with a heterogeneous class. With multi-level instruction, the instructor provides the same information to each learner but at a level appropriate for the individual learner. Methods that can be used successfully include using small groups and tutors as well as individualized learning guides, such as the one you are using now.

Another technique that can be used in individualizing instruction is to have learners generate their own learning materials. As learners generate materials that reflect what they need to know, it helps them build their skills.

A WDP (Workplace Development Plan) is used as a framework to guide instruction: to set goals, determine what needs to happen to meet those goals, and monitor progress toward the goals. In developing a WDP, the first step is to conduct interviews to determine what the learners already know and can do. It not only provides information regarding where the learner is; it also boosts feelings of confidence and helps the learner become supportive of goals that are developed participatively. Formal assessment of the learner's current ability level is important and should be used in conjunction with information gained in the interview.

You will find in your heterogeneous workplace literacy group a number of learning styles. Learning styles are preferences in ways of learning. Numerous methods have been advanced for identifying and classifying learning preferences, each with its body of research. Koehler et al.[1] use the following framework to classify learning styles: perceptual (visual, auditory, and tactile/kinesthetic), and processing (global, analytical, impulsive, and reflective). A second framework is also presented with a learning styles instrument that has been used successfully in workplace literacy programs (Staff Development Center, Wichita Public Schools, Kansas). By understanding

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1. S. L. Koehler et al., *Teachers, Tools, and Techniques. A Handbook for Adult Basic Education and GED Instruction* (Des Plaines, IL: Adult Education Service Center of Northern Illinois, Adult Learning Resource Center, 1992). (ED 348 502)

your learners' learning styles, you can teach to those styles in a much more individualized manner.

Differing abilities to use higher order cognitive skills (critical thinking, problem solving) is another variable you will encounter. Higher order cognitive skills consist of generic (meta-cognitive and reasoning) and task specific (learning and problem solving) skills. Metacognitive skills are used to assess one's understanding and validity of generalizations, and to test facts against rules of evidence. Reasoning skills can be analogical, logical, or creative. Task-specific skills involve patterns of discipline-related knowledge that assist in learning and procedural knowledge that enables problem solving.

Objectives

- Identify methods considered effective for use in multilevel classes.
- Develop skill in using workplace development plans to structure instruction.
- Explain how knowledge of learning styles can be used to adjust and improve teaching and learning.
- Identify methods of generating learner-developed materials.
- Relate the theories of cognitive science to the realities of the workplace literacy program.

To Help You Meet the Objectives

- Study the material that follows:

  Reading 1: Multilevel Classes
  Breaking the Lockstep

  Reading 2: Individualized Workplace Development Plan

  Reading 3: Learning Styles
  Learning Styles Inventory

  Reading 4: Developing Learner-Generated Materials

  Reading 5: Contemporary Cognitive Science

- Reflect on the questions posed after each reading. The questions are designed to help you clarify and extract meaning from the reading that can be helpfully applied. There are benefits to both individual and interactive reflection—
  - As an individual, consider how you would apply the information either in the program to which you are already assigned or in a program to which you might be assigned.
  - If you are able to discuss these questions with other instructors or program staff, try to get other perspectives on the reading. Compare notes on the ways the ideas can be and have been applied in their experience. If the experiences differ, help each other probe the possible reasons for the differences.

- Complete the Application Activity.
- Evaluate your own competencies using the Evaluation Guidelines. This is an opportunity to assess your own learning and identify any areas in which you feel less competent or confident. If indicated or desired, take advantage of the opportunity to review the related material in the Annotated Bibliography. You may also want to seek out a more experienced person who can be a mentor to you on this topic, helping you assess your competency and acting as a resource person.
- Ask your reviewer to evaluate your skills also. Be sure to note the input from the reviewer that can provide the basis for your further competency building.

To Help the Reviewer Guide and Evaluate Learner Performance

These learning guides have been designed to allow for maximum flexibility of use. For those individuals using them for professional development (without ties to a formal program), the guides allow for self-study. Such use may, however, limit the opportunity for interaction and practice in a group setting. Therefore, if learners are completing these guides in a group setting under your direction, it is strongly recommended that you identify such opportunities and capitalize upon them.

Reflection questions at the end of each Reading and an Application Activity and Evaluation Guidelines at the end of each learning guide provide opportunities for you, as a reviewer, to monitor learner progress and evaluate learner performance on the workplace literacy knowledge and skills being developed. However, your expectations should be based somewhat on the learner's background (e.g., previous instructional experience) and the learner's progress in the program. Individuals with previous experience as instructors in workplace literacy programs should be expected to extend their thinking and activities beyond the level expected of those without such experience.

For example, if the learner is asked to "define company culture," individuals ***without*** instructional experience would be expected to respond solely on the basis of their reflections concerning the readings provided within the guide. The responses expected of individuals with instructional experience, however, should go beyond the readings, incorporating their real-world experiences as well. Likewise, as individuals complete more and more of the learning guides, their work should reflect that progress. Knowledge and skills gained in earlier guides should be ***integrated*** into their reflections and activities as they work through later guides.

Flexibility can also be provided concerning how the learner will demonstrate competency. At a minimum, the learner should submit ***written*** descriptions, definitions, and explanations to demonstrate successful completion of the Application Activity. These should be evaluated—by both you and the learner—using the criteria provided in the Evaluation Guidelines. If feasible, however, you should also arrange to meet with the learner to discuss his or her written documentation. At that time, you could also pose hypothetical or actual situations related to the skill criteria and ask the learner how he or she would handle those situations. Another possibility would be to ask individuals to perform the skill as part of a presentation or demonstration to others in the class or group.

It is also desirable that, whenever possible, you and the learner identify opportunities for expanding on the learning experiences presented in the guide—ways for the learner to apply the learning more deeply and broadly. The question, "What plans do you have for learning more about the skill covered in this guide?" could well be a standard one. In many cases, the learner can use his or her work in the Application Activity as a building block for further exploration.

In summary, the learning situation is not one in which strict criterion-referenced standards based on percentage attainment or mastery levels are suitable, nor would one mode of demonstration be feasible—or appropriate—for everyone. You and the learner should discuss and reach agreement in advance on the level of achievement expected and mode of demonstration to be used so as to create the optimal learning experience. The intent is for the learner's professional development to be competency-based, rigorous, and designed to motivate further learning, yet sensibly adapted to the situation and to the learner's needs and abilities. Hopefully, the learners will carry this flexible philosophy and approach into their own workplace literacy programs.

"MULTILEVEL CLASSES"
In *Teachers, Tools, and Techniques: A Handbook for Adult Basic Education and GED Instruction* by S. L. Koehler, M. E. Mulloy, and D. Terdy, 67
Des Plaines, IL: Adult Education Service Center of Northern Illinois, Adult Learning Resource Center, 1992 (ED 348 502)

A multilevel class is one in which students have a wide range of ability levels. Every ABE/GED class is to some extent a multilevel class. Even the most carefully assessed and assigned classes become multilevel over time as students make progress according to their individual abilities and aptitudes. There are also a number of other reasons for multilevel classes.

Placement testing: Testing for student placement frequently targets only one skill area. For example, a reading test may be given to place students into Basic Skills, Pre-GED, or GED classes—classes which include both reading and math instruction. Since proficiency in reading and math are not necessarily correlated, the students in these classes will tend to have a wide range of math skills.

It is also important to realize that many tests used for placement purposes are imperfect indicators of students' actual abilities.

Limited program resources: Funding considerations often determine the number and size of adult education classes. Because of limited funding and/or space, a given program may offer only one *Adult Reading* or *Adult Math* class creating classes with mixed ability levels.

Open enrollment: Many adult education programs have open enrollment policies and therefore accept students at any time during an instructional cycle. This results in an endless stream of new students, making many classes multilevel.

Students' personal lives: A variety of personal factors influence which classes students choose to attend. Such issues as transportation, child care, work schedules, and even friendships can cause students to enroll in one class (or school) over another. For these reasons, students sometimes choose to attend classes unsuited to their ability levels.

It is important for teachers of multilevel classes to realize that they have little or no control over the four factors described above. While teaching a multilevel class may seem overwhelming, there are some workable ways to handle multilevel instruction.

Excerpted from "BREAKING THE LOCKSTEP:
EDUCATORS EXPLORE ALTERNATIVES TO WHOLE-CLASS INSTRUCTION" by S. Willis
ASCD Update v36/n7 (September 1994): 1, 6
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As student differences multiply, some teachers are finding that whole-class instruction—as the principal mode of teaching—is no longer as appropriate as it used to be. Standing at the chalkboard and delivering a lecture is unlikely to meet the needs of most students, they believe.

So teachers are experimenting with alternatives to whole class instruction. These alternatives include the use of mastery learning approaches, learning centers and contracts, self-directed project work, cooperative learning, computer-assisted instruction, and various grouping strategies. By using these approaches, teachers are striving to introduce an element of individualization and to avoid one-size-fits-all instruction.

Breaking away from a reliance on lecture is difficult for teachers who are "rooted in traditional teaching methods," says Karen Mortimer, an education consultant from Rapid City, S.D. Yet alternative approaches "have been around awhile," she says. "We don't have to reinvent the wheel."

One approach Mortimer recommends is ***mastery learning***, which acknowledges that students learn at different rates. In mastery learning approaches, students who fail to grasp important concepts from a unit receive additional instruction for a class period or two, while other students move on to enrichment activities. Another way teachers can differentiate instruction is by using a ***variety of grouping procedures***, says James Yanok of Ohio University. Students can be grouped by ability or by interest, for peer tutoring or cooperative learning. A third approach is to use ***learning centers.*** When students can rotate among various stations designed to help them meet specific learning objectives, they can work at their own pace, Yanok says. This set-up also allows the teacher to move about the room, keeping students on task and offering help as needed.

Many experts suggest ***project work*** as a means to capitalize on differences in students' abilities, interests, and learning styles. Joseph Renzulli of the University of Connecticut recommends letting students pursue individual or small-group projects on topics of their own choosing.

Reflection on Reading 1

- What do you think are the two most likely reasons that you will encounter multilevel classes in a workplace literacy program?

- Have you ever been a student in a multilevel class? Do you believe the teacher was able to teach to all the different levels? What methods did the teacher use?

- The lecture method is generally agreed to be ineffective in multilevel classes. Why do you think this is so? How effective do you think the lecture method would be in most workplace literacy programs?

"AN INDIVIDUALIZED WORKPLACE DEVELOPMENT PLAN"
Adapted from *Technique for Individualization: The Academic Development Plan*
by S. G. Pritz and M. R. Crowe, 1-3, 5
In Targeted Teaching Techniques, one of three guidebooks in the package,
Basics: Bridging Vocational and Academic Skills
Columbus, OH: National Center for Research in Vocational Education, 1987

A Workplace Development Plan (WDP) is an individualized plan for academic progress worked out cooperatively by the learner and those involved with helping the learner. The major thrust of the WDP concept is to respond to the obvious need to help learners strengthen basic skills needed to perform successfully in the workplace. The response strategy is systematic individualized planning.

The WDP is a process by which teachers, along with others, as suitable, can sit down with a learner to consider that individual's combined needs. The process of developing the plan is the heart of the WDP's benefit; as the WDP depends on assessing a learner's skill levels and analyzing the learner's needs as a basis for formulating the plan. Completion of the WDP form then makes the plan concrete and provides a vehicle for sharing information, monitoring, and updating. The WDP form that follows the text should now be examined briefly to visualize what a WDP involves.

Why a WDP?

The rationale for a WDP can perhaps best be described in terms of its older, proven, relative, the individualized education program (IEP). The legislative provision for the IEP has been described as the most challenging educational mandate in recent history. This landmark legislation assures that all—

> handicapped individuals ages 3-21 will receive a free and appropriate public education designed to meet their individual and unique education needs. IEPs are the vehicle for establishing an appropriate educational program for each handicapped learner. The IEP is the basic document used to design, implement, and evaluate the educational services a child receives. While the primary intent of the IEP is to promote educational planning for handicapped learners, many argue that it has major implications for the design and delivery of instruction for all students (Phelps and Batchelor 1979, pp. ix, 1).

As with many other challenging mandates, the IEP has not, in practice, always lived up to the promise. But the challenge is valid because it makes explicit a sound educational premise that applies to all learners regardless of their age or stage of life: that each is unique in the combination of his/her goals, interests, abilities, aptitudes, and needs. If a goal of education is to make available an appropriate program for each of these unique individuals, then it makes sense that planning take place on an individualized basis. It behooves those who are involved with an individual learner to cooperate in planning a program to meet his/her needs.

Although it would be possible to formulate a plan based on consideration of the learner's abilities and needs without writing it down, there are a number of advantages to having a written Workplace Development Plan (WDP). Since the learner is involved in the formulation of the WDP, it takes on the nature of a behavioral contract with the following benefits (Meyer 1978):

- It provides a written record of the decisions made and the course of action to follow.
- It serves as a motivational device.

- It provides the learner with a sense of progress, especially if it is broken down into segments with assessment after each segment.
- It encourages the learner to assume responsibility for his/her learning.
- It provides a vehicle for periodic assessments.
- It treats the learner as a responsible person.

A model Workplace Development Plan should include the same basic components as any instructional plan:

- A statement of the present educational levels of the learner
- A statement of goals, including short-term instructional objectives for each learner
- Appropriate objective criteria and assessment procedures and schedules for determining periodically whether instructional objectives are being achieved.

The WDP Process

The objective is to develop a conscious plan for the academic development of each learner. The process depends on a joint effort of the learner and educational facilitator(s) to formulate and implement the plan, and the success of the effort depends on communication.

The model WDP process requires that those involved prepare to develop WDPs by considering the salient factors that influence learners' academic development in the workplace setting. The task structure for the WDP process is shown in Figure 1, which also shows how the tasks in the WDP process link up with completion of parts of the WDP form, which follows.

References

Meyer, D. *Employability Development: A Training Monograph.* Rochester, MI: Oakland University, 1978.

Phelps, L. A., and Batchelor, L. J. *Individualized Education Programs (IEPs): A Handbook for Vocational Educators.* Information Series No. 188. Columbus, OH: National Center for Research in Vocational Education, The Ohio State University, 1979. (ED 174 853)

WDP Process	WDP Form
WDP Task 1: Prepare to develop WDPs	
WDP Task 2: Obtain information for the WDP	Page One: Personal data, prior education information, work experience
WDP Task 3: Analyze learner needs and design a plan to address them	Page Two: Assessment of needs and special considerations (as required)
WDP Task 4: Put the plan into action	
WDP Task 5: Evaluate learner progress	Page Four: Monitoring activities
WDP Task 6: Revise the WDP	Page Four: WDP update

Figure 1. Linking the WDP process to the WDP form

WORKPLACE DEVELOPMENT PLAN*

Learner's Name: _____ Program: _____

SSN: _____ Coordinating teacher(s): _____

Birth Date: _____ Present Date: _____ Preferred days and hours: _____

Company: _____ Clock #: _____ Shift: _____

Division or plant: _____ Department: _____ Work phone: _____ Home phone: _____

PRIOR EDUCATION INFORMATION

Favorite subject(s) of study:	Subjects of study most disliked:
Subject(s) in which you did best:	Subject(s) in which you did least well:

WORK EXPERIENCE Job Title: Years with Company:

Description of Major Job Duties	Special skills
Which of your job tasks do you like most? Why?	Which of your job tasks do you like least? Why?
What education or training courses would you like to take?	What are your job goals?

*This plan was designed and developed by S. Pritz as an adaptation of the IEP form found in L. A. McKinney and M. Vreeburg, *Extending Horizons: IEP Planning*, Research and Development Series No. 257C (Columbus, OH: National Center for Research in Vocational Education, The Ohio State University; 1985). (ED 260 239) Copyright is claimed by The Center on Education and Training for Employment. Permission to duplicate for educational purposes is hereby granted.

ASSESSMENT OF NEEDS

Tests administered: (list)
- ☐ None
- ☐ Interest
- ☐ Achievement
- ☐ Aptitude
- ☐ Learning Style
- ☐ Basic Skills
- ☐ Other (specify)

Tests recommended: (list)
- ☐ None
- ☐ Interest
- ☐ Achievement
- ☐ Aptitude
- ☐ Learning Style
- ☐ Basic Skills
- ☐ Other (specify)

Evaluations completed (if information volunteered)

Medical	☐ Yes	☐ None
Psychological	☐ Yes	☐ None
Speech	☐ Yes	☐ None
Hearing	☐ Yes	☐ None
Visual Testing	☐ Yes	☐ None
Orthopedic	☐ Yes	☐ None
Other	☐ Yes	☐ None
Evaluation Data Adequate	☐ Yes	☐ No

Specify Needed Data:

Summary of assessment results and their implications:

Skill strengths:

Skills needing work:

Summary of previous program performance information:

SPECIAL CONSIDERATIONS

- No diploma
- Personal problems
- Health problems
- Physical handicap
- Limited English proficiency
- Other (specify)

Program & Services	Check if currently provided	Check if needed	Comments
GED			
Transportation			
Child Care			
Therapy or tutoring			
LEP/ESL Class			
Other			

Reading 2 continued

ACTION PLAN

Long-term Goals	Short-Term Objectives	Evaluation Procedures & Criteria
Activities Selected	**Learner Responsibilities**	**Teacher Responsibilities**

MONITORING ACTIVITIES

Activity	Date	Outcome

WDP UPDATE

Review conducted ☐ yes ☐ no Date: Page 1 Revisions ☐ yes ☐ no Page 2 Revisions ☐ yes ☐ no

Modifications to long-term goals:

Modifications to short-term goals:

Revised Activities

Learner Responsibilities

Teacher Responsibilities

(Add other sheets as needed.)

Reflection on Reading 2

- Why are Workplace Development Plans important in a workplace literacy program for adults?

- Copy the Workplace Development Plan form and complete it, using yourself as the learner. Consider what meaning there is in the process of thinking out the responses and gathering together information relevant to your future success.

"LEARNING STYLES"
In *Teachers, Tools, and Techniques: A Handbook for Adult Basic Education and GED Instruction* by S. L. Koehler, M. E. Mulloy, and D. Terdy, 9-11
Des Plaines, IL: Adult Education Service Center of Northern Illinois, Adult Learning Resource Center, 1992 (ED 348 502)

Individuals learn in different ways. This diversity among people is called learning styles. Learning styles are as unique as fingerprints and differ according to who we are, where we are, how we see ourselves, what we pay attention to, and what people ask and expect of us. Recognizing and dealing with these individual learning styles can be a challenge for teachers. Teachers who are aware of learning style differences and provide for a variety of learning styles in their lessons often see a marked improvement in student learning.

A variety of factors account for learning style differences. Some of these factors are inherited while others are learned. Though we cannot explain all learning style differences, there are two areas which seem to be of particular significance for instruction and learning: perceptual styles and information processing styles. Perceptual styles focus on how we use our senses to gather information about our environment. Processing styles focus on how we organize and use this information to solve the problems of daily life.

Perceptual Styles

Perceptual style refers to how individuals gather information about their world. It is how we know, what we know. This information is gathered through the senses of hearing, seeing, touching, smelling, and feeling. As learners, we may tend to rely more on one sense than another. Within any given classroom, some students learn best by watching (visual learners); others learn best by hearing (auditory learners); and others learn best by doing (tactile/kinesthetic learners).

Visual learners learn by seeing and imagining. They remember what they see and prefer to have such information as directions written down. Organizing information into chart, graph, and map form helps visual learners remember important details.

Auditory learners learn best by listening and verbalizing. Students who prefer to use their ears to learn have little difficulty remembering spoken information. Discussing information helps them focus on and remember important details.

Tactile/kinesthetic learners learn by doing things for themselves. They are *hands-on* people who like direct involvement. Writing ideas down or creating diagrams helps these individuals organize and remember information. Students who learn best through movement and touch need freedom to move about while learning (e.g., moving from desk to chalkboard or other areas of the classroom).

Instructional Strategies for Perceptual Styles

Students who have an understanding of their learning style are better able to develop effective learning strategies [see Learning Styles Inventory at the end of this reading]. An auditory learner, for example, might develop the strategy of reading out loud and then recording key information for review at a later date.

Teachers should help students become aware of different learning styles, but should not focus instruction on any one style. Instruction should be broad enough to appeal to all students' learning styles. When giving directions, for example, instructors might write the directions on a chalkboard or overhead (visual), read or discuss the

directions pointing out key points (auditory), have students write directions in a step-by-step outline (tactile/kinesthetic).

Tips for teachers:

- Provide information in visual and verbal form.
- Provide opportunity for group discussion.
- Provide opportunity for writing (e.g., completing a chart, diagraming information).
- Provide opportunity for movement (e.g., changing seats, going to chalkboard).
- Encourage students to rewrite and/or restate material in their own words.

Processing Styles

Processing style refers to how individuals organize and think about perceptual information. Processing styles have important implications for how individuals apply what they have learned to the problems of daily life. Processing can be looked at in terms of (1) global learners, (2) analytical learners, (3) impulsive learners, and (4) reflective learners. Most people are a combination of all four of the above processing styles. Each individual, however, tends to feel more comfortable processing information in some ways than in others. The most comfortable way of organizing and thinking about information represents the individual's processing style.

Global learners need to look at the overall concept first and then break down the information into specifics. They want to chunk ideas together, so they can see the big picture. Global learners learn through watching, listening, and discussing. They learn best when material is relevant to their own experience.

Analytical learners prefer facts and details. They like information presented in small sequential steps. Analytical learners prefer to learn on their own and tend to want to know what experts think.

Impulsive learners enjoy self-discovery and like new experiences. They learn by trial and error, relishing change. Impulsive learners tend to need more flexibility than is often found in traditional classrooms.

Reflective learners tend to be cautious in their approach to learning. They are skills oriented and like to learn things that have a practical use. Reflective learners like clear-cut and concise ideas. They thrive on plans and time lines and tend to do well in traditional classroom settings.

Instructional Strategies

All four styles of learning are equally valuable. Each has its own strengths and weaknesses. Instruction needs to include all four processing styles. This allows students an opportunity to be successful while encouraging them to stretch and develop new learning skills. Teaching through the use of all four learning styles also helps students learn to adapt their learning strategies to other peoples' style.

Tips for teachers:

- Allow students a choice of working in pairs or alone.
- Provide for self-pacing (students can work on the same topic at different levels and different rates).
- Provide a variety of materials and texts (no one set of workbooks or teaching methods is right for all students).
- Encourage students to learn from each other.
- Teach study strategies that encompass all four styles of processing.

LEARNING STYLES INVENTORY
Wichita, KS: Staff Development Center, Wichita Public Schools

Directions: Read each statement clearly and decide which of the four responses agrees with how you feel abut the statement. Circle the number of your responses on the answer sheet.

Sample Statement

I would rather do schoolwork in the morning than in the afternoon.

For each question, there are four possible responses from "MOST LIKE ME" to "LEAST LIKE ME." Decide which response best describes the way you feel about a statement here by marking the one response that best describes your feelings.

MOST LIKE ME			LEAST LIKE ME
4	3	2	1

Explanation of Responses

If you are the sort of person who rises early and enjoys working before noon, you would probably respond by circling the (4). If you start slowly and usually begin to work better later in the day, you probably would respond by marking the (1). If you are somewhere in between, then your response should be a (3) or a (2) depending on where you think you fit.

You cannot make a mistake because there is no right or wrong answer. Only the way you feel about the statement is correct. There are 45 statements on the next three pages. Please choose an answer for each statement and mark your answers on the answer sheet the same way you did for the sample statement. You may have all the time you want, so please respond to every statement.

Now, if there are no questions, go to the next page titled "HOW I LEARN" and begin. Be sure you respond to every statement.

How I Learn	Most Like Me			Least Like Me
1. When I make things for my studies, I remember what I have learned better.	4	3	2	1
2. Written assignments are easy for me to do.	4	3	2	1
3. I learn better if someone reads a book to me than if I read silently to myself.	4	3	2	1
4. I learn best when I study alone.	4	3	2	1
5. Having assignment directions written on the board makes them easier to understand.	4	3	2	1
6. It's harder for me to do a written assignment than an oral one.	4	3	2	1
7. When I do math problems in my head, I say the numbers to myself.	4	3	2	1
8. If I need help in the subject, I will ask a classmate for help.	4	3	2	1
9. I understand a math problem that is written down better than one I hear.	4	3	2	1
10. I don't mind doing written assignments.	4	3	2	1
11. I remember things I hear better than things I read.	4	3	2	1
12. I remember more of what I learn if I learn it when I am alone.	4	3	2	1
13. I would rather read a story than listen to it read.	4	3	2	1
14. I feel like I talk smarter than I write.	4	3	2	1
15. If someone tells me three numbers to add, I can usually get the right answer writing them down.	4	3	2	1
16. I like to work in a group because I learn from the others in my group.	4	3	2	1
17. Written math problems are easier for me to do than oral ones.	4	3	2	1
18. Writing a spelling word several times helps me remember it better.	4	3	2	1
19. I find it easier to remember what I have heard than what I have read.	4	3	2	1
20. It is more fun to learn with classmates at first, but it is hard to study with them.	4	3	2	1

21. I like written directions better than spoken ones.	4	3	2	1
22. If homework were oral, I would do it all.	4	3	2	1
23. When I hear a phone number, I can remember it without writing it down.	4	3	2	1
24. I get more work done when I work with someone.	4	3	2	1
25. Seeing a number makes more sense to me than hearing a number.	4	3	2	1
26. I like to do things like simple repairs or crafts with my hands.	4	3	2	1
27. The things I write on paper sound better than when I say them.	4	3	2	1
28. I study best when no one is around to talk or listen to.	4	3	2	1
29. I would rather read things in a book than have the teacher tell me about them.	4	3	2	1
30. Speaking is a better way than writing if you want someone to understand what you really mean.	4	3	2	1
31. When I have a written math problem to do, I say it to myself to understand it better.	4	3	2	1
32. I can learn more about a subject if I am with a small group of students.	4	3	2	1
33. Seeing the price of something written down is easier for me to understand than having someone tell me the price.	4	3	2	1
34. I like to make things with my hands.	4	3	2	1
35. I like tests that call for sentence completion or written answers.	4	3	2	1
36. I understand more from a class discussion than from reading about a subject.	4	3	2	1
37. I remember the spelling of a word better if I see it written down than if someone spells it out loud.	4	3	2	1
38. Spelling and grammar rules make it hard for me to say what I want to in writing.	4	3	2	1
39. It makes it easier when I say the numbers of a problem to myself as I work it out.	4	3	2	1
40. I like to study with other people.	4	3	2	1
41. When the teachers say a number, I really don't understand it until I see it written down.	4	3	2	1

42. I understand what I have learned better when I am involved in making something for the subject.	4	3	2	1
43. Sometimes I say dumb things, but writing gives me time to correct myself.	4	3	2	1
44. I do well on tests if they are about things I hear in class.	4	3	2	1
45. I can't think as well when I work with someone else as when I work alone	4	3	2	1

Scoring Instructions

- Find the number of the response selected for each statement and write it in the blank provided for that statement number on the Learning Styles Inventory Worksheet.
- Total the numbers under each heading.
- Multiply the total by two (2).
- Place an X on the Learning Styles Profile above the total score for each of the nine headings.
- Use the descriptions on the page titled "Descriptions of Learning Styles" to assist students in understanding their learning styles.

INSTRUCTOR

Learning Styles Inventory Worksheet
(Sample)

1. VISUAL LANGUAGE
   5 3
   13 4
   21 4
   29 3
   37 4

   Total 18 x 2 = 36 (Score)

2. VISUAL NUMERICAL
   9 4
   17 2
   25 4
   33 4
   41 3

   Total 17 x 2 = 34 (Score)

3. AUDITORY LANGUAGE
   3 2
   11 3
   19 3
   36 2
   44 3

   Total 13 x 2 = 26 (Score)

4. AUDITORY NUMERICAL
   7 2
   15 3
   23 2
   31 2
   39 1

   Total 10 x 2 = 20 (Score)

5. AUDITORY-VISUAL-KINESTHETIC (Combination)
   1 4
   18 3
   26 3
   34 3
   42 4

   Total 17 x 2 = 34 (Score)

6. INDIVIDUAL LEARNER
   4 4
   12 2
   20 2
   28 4
   45 4

   Total 16 x 2 = 32 (Score)

7. GROUP LEARNER
   8 3
   16 1
   24 2
   32 2
   40 3

   Total 11 x 2 = 22 (Score)

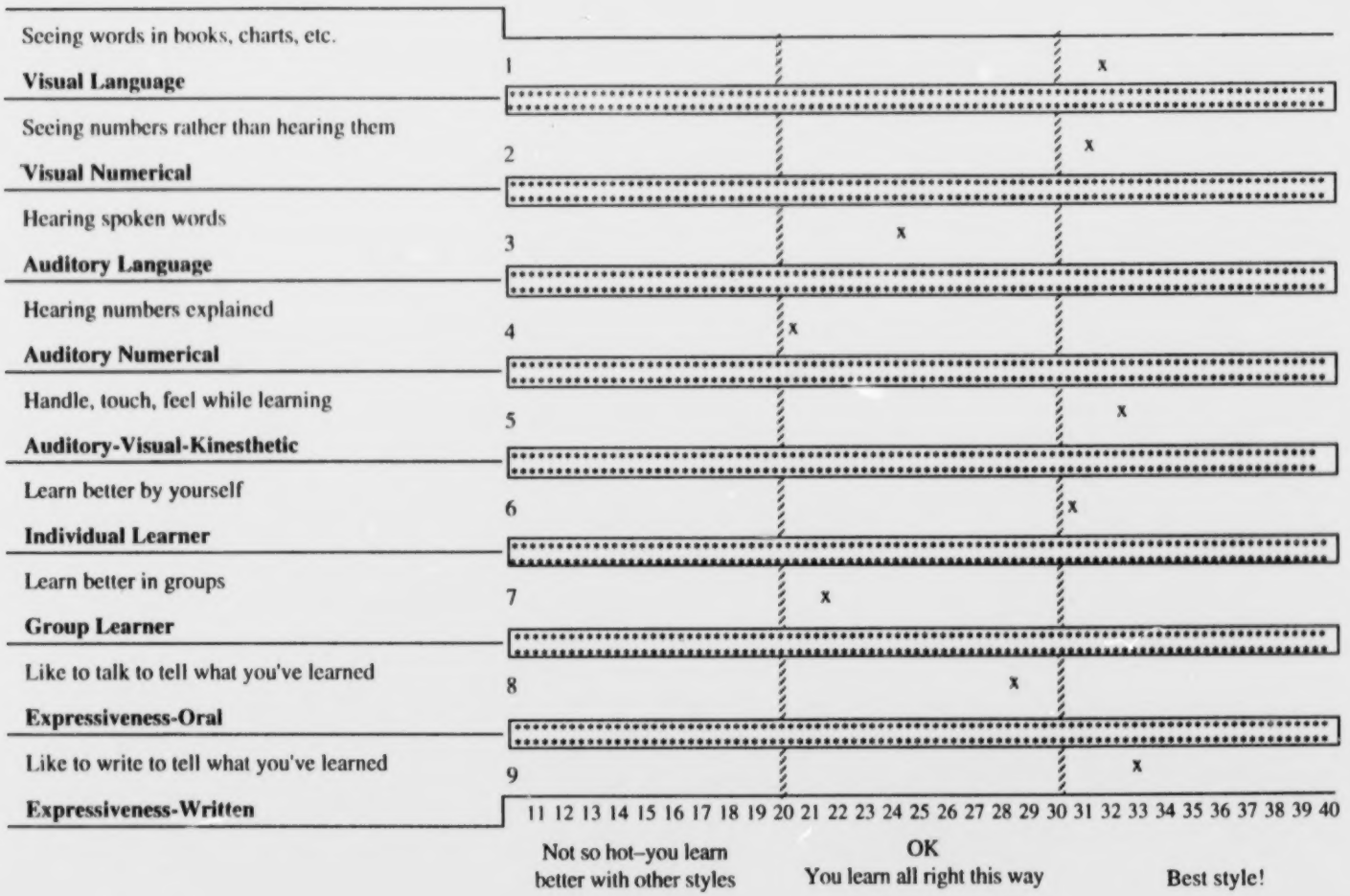
8. EXPRESSIVENESS-ORAL
   6 3
   14 3
   22 3
   30 3
   38 3

   Total 15 x 2 = 30 (Score)

9. EXPRESSIVENESS-WRITTEN
   2 4
   10 3
   27 2
   35 4
   43 4

   Total 17 x 2 = 34 (Score)

LEARNING STYLES PROFILE
(Sample)



INSTRUCTOR

Descriptions of Learning Styles

The Learning Styles Inventory is divided into three main areas: information gathering/receiving (learning), social work conditions (working), and expressiveness (reporting).

Scores on the Learning Styles Inventory fall into one of three categories: major, minor, and negligible. These categories are interpreted as follows:

- ***Major:*** The student prefers this mode of learning, feels comfortable with it, and uses it for important (to the student) learning. (A student does not necessarily have one and only one preferred style.)
- ***Minor:*** The student uses this mode, but usually as a second choice or in conjunction with other learning styles.
- ***Negligible:*** The student prefers not to use this mode if other choices are available, and does not feel comfortable with it.

The following are descriptions of learning styles that can be found in every learner to a major, minor, or negligible extent. These descriptions provide information for use in validating students' learning styles on the basis of observation. The Learning Styles Inventory is a tool that facilitates the evaluation of these learning styles. Each of the style areas is described for major scores.

In the area of learning, the Learning Styles Inventory investigates five areas. They are as follows:

1. ***Visual Language.*** Students who demonstrate this preference learn best by seeing words in books, on the chalkboard, in charts, or in workbooks. They tend to write down words that they hear in order to learn by seeing them on paper. They remember and use information best that they read.
2. ***Visual Numerical.*** Students who demonstrate this preference need to see numbers in order to work with them. They tend to remember and understand math facts if they have seen them. They don't seem to need much oral explanation.
3. ***Auditory Language.*** Students who demonstrate this preference learn from hearing words spoken. They may vocalize (or subvocalize) as they read, particularly when attempting to understand new material. They understand and remember best facts they have learned by hearing.
4. ***Auditory Numerical.*** Students who demonstrate this preference learn from hearing numbers and explanations. They may remember phone and locker numbers with ease, and be successful with oral numbers, games, and puzzles. They may do just about as well without a math book as with one, because written materials are not important to them. They probably work problems in their heads. They may say numbers to themselves as they read problems.
5. ***Auditory-Visual-Kinesthetic Combination.*** A-V-K students learn best through experience. They need a combination of stimuli. The manipulation of material along with the accompanying sight and sounds (words and numbers seen and spoken) make a big difference in their learning. They may not seem to be able to understand assignments, or be able to keep their minds on their work unless they are totally involved. They attempt to handle, touch, and work with what they are learning.

The area of working considers whether students like to work or learn in a group or alone. Areas investigated are as follows:

6. ***Individual Learner.*** Students who demonstrate this preference get more work done by themselves. They think best, and remember more when they learn alone. They care more for their own opinions than for the ideas of others.
7. ***Group Learner.*** Students who demonstrate this preference strive to study with at least one other student, and do not get much done studying alone. They value others' opinions and preferences. Group interaction increases their learning and later recognition of facts. Socializing is important to them.

The area of reporting considers how students prefer to express themselves. Style preferences fall into one of the following categories:

8. ***Oral Expressive.*** Students who demonstrate this preference can easily tell what they know. They talk fluently and comfortably and seem to be able to say what they mean. They probably know more than their written tests show. They are not shy about giving reports or talking to teachers or classmates. Organizing and putting thoughts on paper, however, may be difficult for these students.
9. ***Written Expressive.*** Students who demonstrate this preference write essays and answers to test questions easily. They are uncomfortable giving answers orally. Their thoughts are better organized when written than when given orally.

Reflection on Reading 3

- What is your preferred learning style according to the instrument given? What are the implications of this information for the way in which you approach learning?
- How do you cope in learning situations in which the instructor/reader does not accommodate your learning style?
- How does information about learning styles alter your interpretation of learners' failure to learn basic skills?
- How can information about learning styles be used to adjust your teaching and also help learners to make adjustments?

"DEVELOPING LEARNER-GENERATED MATERIALS"
In *More Than the Sum of the Parts:*
Using Small Group Learning in Adult Basic and Literacy Education
by S. Imel, S. Kerka, and S. Pritz, 49-58, 60-62
Columbus, OH: Center on Education and Training for Employment, 1994 (ED 368 905)

[In *More Than the Sum of the Parts*, we have demonstrated] the value of moving away from the traditional teacher-directed classroom to a learner-directed environment that is collaborative, cooperative, and participatory. The benefits of learners controlling their own learning through small group involvement may convince teachers to shift their role to facilitating instruction. Yet teachers/facilitators are usually responsible for developing the learning materials to be used. It is a common conception about learning in formal situations that the curriculum and related materials should be predesigned, predeveloped, and preproduced. And, as has been noted earlier, the time and effort involved in generating appropriate learning activities is often cited as a major disadvantage to a small group learning approach.

This chapter explains—

- the benefits of having learners participate in developing materials
- how teachers can become co-developers with learners
- some techniques for beginning the process of learner-generated material development

What Materials and Why?

Curriculum materials are usually thought of as textbooks, workbooks, teaching-oriented software, and audiovisual materials that are predesigned for and used in classrooms. They tend to have some disadvantages:

- Quickly obsolete
- Difficult to change
- Expensive to purchase
- Time consuming to develop
- Lacking specificity for learner needs
- Artificial rather than real

The most important drawback may be that those who learn from their development are the curriculum developers, not the intended learners.

Educational materials are the "stuff" of learning. Learners can learn much more about both learning itself ***and*** the content if they can be involved in generating the materials themselves. Interestingly, by involving the learners in generating materials, most of the other liabilities either disappear or are lessened. The focus shifts from ***products*** to a ***process*** that is an integral part of learning as it is "discovered" by learners.

A learner-centered curriculum teaches skills needed in today's workplace.

What is it about this development process that would be beneficial for most learners? First, teaching is not simply the task of educators: teaching is an activity that is now being asked of people at all levels and in all types of jobs/roles in organizations. For example, the Secretary's Commission on Achieving Necessary Skills (1991) specifically included under the heading of competencies needed in the workplace, *teaching others new skills.*

> *Recurrent throughout the school-to-work transition research are the findings that our graduates need to be able to—*
>
> - *think both critically and creatively*
> - *deal with multiple approaches and answers and ambiguity in general*
> - *communicate in writing and orally*
> - *locate and use information to solve problems in the workplace*
> - *be flexible, cooperative, and responsive to divergent suggestions and thought.*
>
> *These research findings are instrumental as a foundation for planning curriculum—curriculum capable of producing effective problem solvers and decision makers on the job.*
>
> (Foran et al. 1992, p. 7)

In a competitive and dynamic world, the most effective organizations, such as workplaces, are "learning organizations."

What is a learning organization?

> An organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights
>
> (Garvin 1993, p. 80)

What are some of its characteristics?

- Systematic problem solving
- Experimentation with new approaches
- Learning from one's own experience
- Learning from the experiences of others
- Transferring knowledge quickly and efficiently throughout the organization

(Garvin 1993)

Why would you want to be in one?

> Learning organizations are places "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together"
>
> (Senge 1990, p. 1).

People will function better in such situations if they are not dependent on others to generate the stuff of their learning.

A learner-centered curriculum enhances motivation.

A learner-centered curriculum, based on learners' self-selected needs, is widely believed to enhance motivation. The age-old question, "Why do I need to know this, teacher?" does not disappear with adulthood, nor does the need to find relevance in learning. It is logical to follow through on those needs by assisting learners in exploring for themselves what it takes to meet them.

Furthermore, new knowledge must connect to learners' existing knowledge to be retained. The learners' previous experiences are unique and must be built upon for them to learn best.

Learning that requires too much memorization and drill (using taxon memory) is less efficient than learning that uses interconnected ideas, concepts, and environment (using locale memory). Thus, "whole" learning experiences are more likely to make an impact on learners.

Cognitive scientists studying learning have revealed much about how the brain extracts meaning, and their findings favor a participatory method over traditional instruction. In this mode, immersion in a learning experience allows learners to use their many types of intelligences to process and organize the information for themselves. The brain's function in this process can be portrayed this way:

Brain's Memory Systems

	The Taxon	**The Locale**
Function	Stores and recalls *isolated* bits of information	Makes maps and complex routes between bits (*interconnected* bits)
Educational Role	Resource for rote memory and drill	Recording whole experiences including emotions, actions, impact, environment
Efficiency Rating for Learning	Low	High

(Adapted from Foran et al. 1992, pp. 9-10)

A learner-centered curriculum respects learners as competent adults.

An integral part of participatory education is the process of curriculum development. Curriculum development does not take place in a vacuum. It does not take place before the semester begins. It is not determined by a textbook. Curriculum development is ongoing and involves the students. They are the ones with the knowledge of the important issues in their lives. It is the role of the teacher to help students make these issues explicit and then to incorporate them into materials appropriate for classroom use.

> *In an atmosphere of open communication, students and teachers learn from each other, exchange ideas and concerns, and share responsibility for how classes are going. As students enter into the process of shaping the class agenda, they take on a more equal part in decision-making and begin to redefine traditional student/teacher roles. Decisions that were once the domain of the teacher become open to negotiation—decisions such as how curriculum content is determined, what languages are spoken in the classroom and when, how to set and enforce class ground rules, and how far to carry a sensitive issue or difficult subject.*
>
> (Nash et al. 1992, p. 2)

Another reason to involve learners in generating their own curriculum is that it accords them the full dignity and respect they deserve as adults. Learners bring to the educational situation a great deal of knowledge from their work, family, and daily lives. They may not recognize themselves how valuable a resource this is. When a teacher demonstrates confidence that learners will be able to draw meaning from this resource, learners' self-esteem is enhanced. If their materials are to be shared with others in their group, and perhaps beyond, other positive effects spin off. As learners develop materials that are "produced" in some way—word processed, duplicated, and presented for others to learn from—they cannot help but feel a sense of importance that their efforts are valued. This, in turn, tends to have the beneficial effect of raising their standards for their own work. The knowledge that their materials are to be used to help others learn is likely to provide far more internal motivation than could possibly be imposed externally by a teacher.

How?

> *We take care not to create what Nan Elsasser (a popular educator from New Mexico) calls "teacher junkies," students who have been made dependent on the direction of a teacher. Our classes are only brief moments in a person's total life. We had best facilitate independence as quickly as we know how. In practice, this means looking at your every function in the classroom and thinking of ways to teach that skill to the students: proofreader, book finder and chooser, materials organizer, evaluator, chaos controller, or discussion facilitator, for example.*
>
> (Clarke 1991a, p. 11)
>
> *We see the relationship between teacher and students a little differently from more traditional programs. In our role as teachers, we like to think of students as co-conspirators. If I am struggling to create good lesson plans, but they don't seem to be working, it's probably because I'm taking on too much myself and not sharing it adequately with the students. Whatever can be done by students ought to be. Whatever they don't feel ready to do becomes the next lesson. The students are co-teachers.*
>
> (Clarke 1991a, p. 11)

You may, as a teacher with your own high standards, be worrying at this point. There is no question that developing curriculum materials is a demanding pursuit requiring its own set of skills that are not easy to acquire. That is where your role as a teacher/facilitator comes in. Rather than being responsible for developing materials yourself, you become the catalyst for drawing them out of the learners and providing guidance and a resource-rich environment in which materials can be developed. This role is no less demanding than the other, but it requires some different skills. Clarke (1991a) describes these skills as follows:

> It might be the ability to draw out of individuals a collective perception of reality that can be analyzed and acted upon. It might be experience in facilitating separate individuals to forge a learning community. What good teachers offer certainly isn't "the answers" or "a better way to live." What they do offer, each decides for him or herself by determining the needs of the current students. (pp. 2-3)

Teacher as Co-developer with Learners

Your roles:

Leader	Coordinator	Role model
Coach	Mentor	Facilitator
Information source		

Your central question:

What can I do to promote learning?

(to be asked as you prepare; to be asked continually throughout the course of instruction)

Your response demands—

- constant flexibility
- careful listening
- alertness
- creativity
- confidence in your ability to recognize and capture the "stuff" of learning as it emerges in interacting with learners
- good judgment to sift and sort among possibilities to form a learning path to a seen destination (not necessarily a straight and narrow path!)

Your curriculum:

the learning experience (process) of developing materials (products)

You may not have been trained or had practice in all that is required in this conception of a teacher and lead developer. Therefore, you may not feel comfortable right away. You may be used to using a set method and a prepared sequence of activities. You will need to allow yourself to experiment, to try out techniques and procedures, and to evaluate their effectiveness as you proceed. Following are some ways that others have found helpful.

Questioning

Through effective questioning, you can open up and maintain a dialogue. "*What*" questions (What do you think; what do you do when . . . , and so forth) are open ended and encourage participation; they also imply that the listener has something to contribute.

This type of question can evolve to brainstorming—fostering the involvement of all in suggesting creative thoughts. Some ground rules for brainstorming should be established by the group to ensure that a positive environment is maintained. Questions that elicit good thinking can be thought of along the levels of the Bloom Taxonomy of Learning, as suggested by the Language and Learning Improvement Branch of the Division of Instruction, Maryland State Department of Education (n.d.):

By following the questioning process using the taxonomy on the next page, you can facilitate systematic problem solving with the group as follows:

Knowledge. Identification and recall of information.

Who, what, when, where, how _____?

Describe _____.

Comprehension. Organization and selection of facts and ideas.

Retell _____ in your own words.

What is the main idea of _____ ?

Application. Use of facts, rules, principles.

How is _____ an example of _____ ?

How is _____ related to _____ ?

Why is _____ significant _____?

Analysis. Separation of a whole into component parts.

What are the parts or features of _____ ?

Classify _____ according to _____ .

Outline/diagram/web _____ .

How does _____ compare/contrast with _____ ?

What evidence can you present for _____ ?

Synthesis. Combination of ideas to form a new whole.

What would you predict/infer from _____ ?

What ideas can you add to _____ ?

How would you create/design a new _____ ?

What might happen if you combined _____ with _____ ?

What solutions would you suggest for _____ ?

Evaluation. Development of opinions, judgments, or decisions.

Do you agree _____ ?

What do you think about _____ ?

What is the most important _____ ?

Prioritize _____ according to _____ .

How would you decide about _____ ?

What criteria would you use to assess _____ ?

Knowledge. Set the stage by finding out what the group already knows about the problem.

Comprehension. Guide the group to organize what they know so that it is usable and so they can identify what else is needed.

Application. Help the group test the significance of their information to the problem at hand.

Analysis. Encourage the learners to study the information in detail so as to see parts and relationships.

Synthesis. Work with the group to build creatively on what they have.

Evaluation. Find out if the problem is solved or the goal reached: How does the group know?

Role Modeling

Role modeling and articulating your own approach to learning and problem solving are important. This perception is often almost subconscious and needs to be made conscious and explicit. Talk through your own thoughts as you work through a situation, almost as though you were outside yourself, narrating a videotape of your own thinking process.

Identifying Goals and Themes

Goals for learning are the articulation of the desired outcomes and are the practical answer to the question "What for?" They provide a motivational focus. ***Themes*** are the articulation of how the commonly expressed needs of learners can be generalized and grouped for instruction. Themes also provide a focus for the learning activities.

You are indispensable in creating the environment in which issues and needs can emerge from the small group. Your inquiries and role modeling help to set the tone. But a critical element is your active listening, helping to round out gaps in the discussion, and following up on a line of dialogue that allows for the related strands to be gathered into an integrated theme statement for consideration by the group.

Finding Student Themes

1. Create a setting. Use the context in which you meet students as a starting point for conversation:
   - Workplace—safety signs
   - Parent group—family pictures
   - Community—local newspaper story
2. Listen actively for issues, problems, ideas to pursue:
   - Conversations before, during, and after class
   - Were you looking forward to coming to class today? Was it hard to come to class today? Why?
3. Elicit issues and concerns:
   - Writing or responding—

     "It is a struggle to . . ." "I'd like to . . ." "I don't know how to . . ."

     "One of my strengths is . . ."
   - Class activities—

     Accomplishments Ways to approach a task
   - Student research

     Investigation to find needed information at home, at work, or in the community

(Adapted from Auerbach 1992, pp. 43-44)

Getting Started

With a commitment to the philosophy and a repertoire of skills at the ready, how can you proceed to lead learners to generate materials? You want to capitalize on the possibilities offered by working with learners in small groups as well as to respond to individual needs and incorporate large group work as it will be helpful. This means that the fact that the small group thinks of itself as a group and shares a common purpose can be an asset.

If a goal or theme has been chosen through dialogue, you know from listening to the discussion what needs have surfaced. Guide the group to establish specific objectives related to the goal or theme through a consensus process. You can use this opportunity to teach a mini-lesson on objectives (what they should contain, why they are important, and so forth).

A general exploration of what the learners already know about this topic is important, both as a guide in planning an approach and as a way of making apparent that the learners already have some knowledge to build on. In selecting an approach, consider the characteristics of learning organizations:

- Systematic problem solving
- Experimentation
- Learning from experience
- Transferring knowledge

Following are some suggested approaches:

Map the Topic

Help the group analyze the topic to establish a conceptual framework that is simple and straightforward, is in their own terms, and has some concrete physical manifestation. A variety of types of graphic organizers can be used as tools (e.g., mind maps, venn diagrams, sequence chains, comparison tables).

Examples of Graphic Organizers

Mapping. Sometimes called clustering, mapping helps people to find links between many different ideas. Usually a writer starts with one topic in the middle of the page. Then topics that "spin off" of the first topic are written in a circle around the first topic.

Problem Tree. A problem tree starts with one problem or question. An answer is written down as one branch of the tree. If that answer leads to another question, you continue up that branch of the tree until you have exhausted all the "why" questions you can think of. Then, you can go back to the root of the tree again and find another reason why "X" is a problem and continue to fill in the branches.

(Gillespie 1990, p. 107)

A process widely used for job analysis can be adapted for other topics: the DACUM (Developing a Curriculum) process relies on small group brainstorming to reach consensus. When a job is analyzed, the group reviews it systematically to identify the specific tasks performed, along with the knowledge, skills, and attitudes necessary for them. A related process, DELTA (DACUM Enhanced Literacy Task Analysis), adds the specific communication, computation, and problem-solving skills inherent in each task. The outcome is a profile chart giving a detailed portrayal of the job, in terms of both job tasks and their academic foundations. (See the box at right for an example.)

The DACUM process is in itself a learning experience in phased analysis, so it can be used with any topic that can be sequentially analyzed to a finer and finer level. It also helps learners realize that they have the ability to reflect on their own situation and knowledge. The product, the chart, is a form of curriculum. Learners can review it to identify where they want to give priority attention for learning, either individually or in pairs or groups.

Sample DACUM Profile for Machinist
Tasks with Supporting Basic Skills

DUTY A. Set Up Hand Held Machines and Automatics

Task A-1. Get job information from supervisor or dispatcher

- Receive written information
- Receive oral information
- Recognize tool and material requirements
- Interpret blueprints

Task A-2. Consult blueprint for specs

- Read route cards
- Interpret directions from supervisor
- Read notes on blueprints
- Read dimensions
- Change fractions to decimals
- Add, subtract, divide, and multiply
- Use fractions and decimals
- Read decimals to 1/10,000ths of an inch

(Excerpted from "DACUM Connections" 1993)

Solve Problems

Xerox's Problem-Solving Process

Problem solving at Xerox involves six steps:

1. Identifying and selecting problem
2. Analyzing problem
3. Generating potential solutions
4. Selecting and planning the solution
5. Implementing the solution
6. Evaluating the solution

Each step undergoes a process of expansion/divergence, then contraction/convergence, and finally determination of what is needed to go to the next step. For example: *Step 2. Analyzing problem* is expanded by identifying many potential causes, then contracted as the key cause(s) are determined; finally, the key cause(s) are documented and ranked in preparation for Step 3.

(Adapted from Garvin 1993)

One of the most common reasons people want to learn is that they face decisions and problems daily in the multiple roles of their lives. If learners identify some of the decision points and problems inherent in their real situations related to the chosen topic, they have a practical and immediate application for their learning. This motivating factor is underscored by the benefit of getting the assistance and perspectives of others in the group. A systematic process for solving problems can be applied to many of the unique situations people face. (See box at left for an example of a problem-solving process.)

Articulating the problem or decision point in some form is developing curriculum. The learners can write down, tape record, or discuss the situation. They are describing **scenarios**, and it often helps to encourage them to visualize and "replay" a scenario in their minds almost like a videotape, describing it as it plays out and

including their thoughts and reactions as well. (In fact, another option is to role play and videotape the scenario.) It may be most comfortable to begin with situations that are not highly personal or emotionally charged, because the next step is to share the scenario to find out if it is clear to others. This leads to discussion and refinement, full of opportunity for building communication and teamwork skills.

A scenario might also be termed a ***case study***, especially if it is more lengthy or complex. And, if the situation has some characteristics of reality but is generated for the purpose of acting out or practicing in a "safe" environment, it becomes a ***simulation***. Simulations can be simple and brief (mini-simulations) or lengthy and complex. [See other learning guides in this series—*Employ Strategies for Communications Instruction* and *Assess Learner Performance*—for further information on and examples of scenario development.]

Construct Projects

Once a situation is articulated and refined, it can be the basis for a variety of projects. Different small groups can address the same situation, each developing their own approach to achieve a designated goal. This technique can make it apparent that most goals can be achieved in more than one way. It will also become clear that multiple perspectives are usually helpful in learning how to proceed toward a goal.

It is essential that learners—

- reflect on the goal
- determine on their own how to reach the goal
- take stock of their own materials and resources
- seek out other resources and assistance

You are invaluable as a guide to the process, most often through probing questions and suggestions of sources of information and options to consider. Part of your role is to insert the "nugget" of an idea that will trigger creative thought and elicit chains of ideas from the learners. You are subtly and skillfully helping to construct a scaffold, but allowing the content within it to evolve from the learners themselves.

Although parts of this process can be accomplished individually, the experience is rich in learning potential for small groups who can follow these steps:

1. Brainstorm all aspects of the task. (Practice in analysis is, in itself, a learning activity.)
2. Assign research and information-seeking activities. (The process of completing activities builds skills and makes products available to foster learning for others.)
3. Decide on the best form for materials. (Criteria involve metacognition—learning about learning.)
4. Assign development activities so as to maximize learning by participation and authentic experience.
   - If written materials are to be drafted, learners can exchange them for review and "pilot test."
   - If a step-by-step procedural task guide would help for a particular task that is new or problematic, the group can think through the needed steps together.
   - If directions are to be developed, the group might talk together about where to find answers to questions, then assign the write-up to one member. They might then review and edit the result together.
   - Performance or "doing" should be encouraged for active participation and authentic experience. For example, the group might ask another group to perform the task by following the directions.

- Demonstration or modeling is a means of teaching each other; a running verbal commentary on the thought processes involved adds a metacognitive benefit.

At any step along the way, you can demonstrate skills or process yourself; you are not denying or hiding your ability to contribute your expertise, merely making it clear that you do not have a monopoly on the expertise. In addition, the learners should consider who else can lend expertise. They can arrange to observe and/or interview others and seek information from outside their usual boundaries.

Ongoing Assessment

Vehicles for continuing reflection on progress toward the goal should be built into the group's thinking about process. Individuals can develop self-assessment checklists that reflect the roles they are to play in the group's work. These can be shared in advance of conducting the actual work as a means of clarifying and setting expectations, used for self-monitoring along the way, and completed as an evaluation at the conclusion of the work.

Keeping a daily journal of activities, progress, and thoughts about them is another way to foster reflection, writing practice, and documentation skills. Journals can form part of an approach to learner assessment. But these can also move beyond individual assessment if shared. The group can use them as the basis to discuss their own interaction and how well their process and selected approaches are working. The outcome should be improved understanding of their own learning.

Summary

A learner-generated curriculum incorporates the widely accepted but not-as-widely applied teaching-learning principles derived from the findings of cognitive science, the basis of educational reform for learners of all ages. In addition to being participatory for the learners, it provides for learner initiative and choice about what "needs" to be learned and how it should be best approached. It builds on prior knowledge, provides context, nurtures creativity and collaboration, and helps learners learn to learn.

> *Participatory education is a process through which teachers and students educate one another. This exchange can take place only if the tools and techniques used are also participatory. . . . The tools and techniques used in participatory education are not in themselves recipes for education. Our experiences as teachers have taught us to view them in the context of the class and of the life issues being addressed in the classroom.*
>
> (Nash et al. 1992, p. 19)

As learners in a group address how they can learn collaboratively in the context of tasks for which they share an understanding, skills, and responsibility and as they are encouraged to select the goals they want to reach and the problems they are interested in solving, the potential positive implications loom large. If people can be teamed together around a common goal, given support systems, tools, and the information they need—or at least some clues about where to find what they are not given—and set loose to achieve the goal, they are more likely to pool their expertise creatively and figure out how to "get there." Further, they are likely to have a significant learning experience in the process. Thinking through a situation, organizing to deal with it, and carrying out what is decided cooperatively are core skills needed by everyone today and tomorrow, and they are the "stuff" of which learning is made.

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Reflection on Reading 4

- Think about a workplace with which you are familiar. Does it qualify to be called a *learning organization*. Why or why not?
- Why should learner-developed materials be part of a workplace literacy program?
- What are the four steps in the questioning process?
- What are the differences between a goal and a theme?
- What are some methods of developing materials?

"CONTEMPORARY COGNITIVE SCIENCE"
In *Making the Nation Smarter: The Intergenerational Transfer of Cognitive Ability*
by T. G. Sticht and B. A. McDonald, 24-31
San Diego, CA: Applied Behavioral and Cognitive Sciences, January 1989 (ED 309 279)

Our review of education intervention programs for early childhood, youth, and adults led us to the disturbing conclusion that the programs have not been as effective in making long term improvements in cognitive ability as has generally been thought. For this reason, and because new intervention programs of an intergenerational nature are rapidly being implemented, it seemed appropriate to take a new look at the nature of cognition and its development, to contrast contemporary understandings with those in effect at the time early (and still ongoing) programs were implemented, and to determine if there is new information and understandings that might offer new directions for future interventions.

The last quarter century has seen a new interest in human cognition and its development across a variety of scientific disciplines. In "the mind's new science" (Gardner 1985), ***anthropologists*** study the cultural basis of cognition, ***sociologists*** study the social distribution of cognitive skills in various groups and institutional settings, ***psychologists*** aim to better understand individual cognitive ability, ***computer scientists*** work to create *artificial intelligence*, and others, such as ***behavioral geneticists, neuroscientists, linguists***, and ***philosophers*** have formed subspecialties that study various aspects of human cognition. Taken together, this multidisciplinary enquiry into the nature, workings, and development of the mind is referred to as *contemporary cognitive science*.

Given the vast number of publications across all these fields of study, it is not possible for us to present a comprehensive survey of cognitive science. Instead, we will present a summary of major trends as we discern them, aided primarily by the papers presented at the conference on the intergenerational transfer of cognitive ability, reinforced with a review of additional materials. The [references provided] offer inroads to the literature on cognitive science that the interested reader can pursue for a deeper understanding of this fascinating and socially important field of study.

The Nature of Cognition

[The definition of] the word *cognition* and its adjectival form *cognitive* . . . as found in a modern dictionary of standard English usage . . . makes the point that cognition has at least two main aspects. On the one hand, cognition refers to the ***mental processes*** that people use to acquire knowledge, and on the other hand, cognition refers to the ***knowledge*** that has been acquired using these mental processes.

Knowledge and cognition

One of the hallmark achievements of cognitive science is the confirmation of ***the dual nature of cognition:*** all human intellectual activities, such as thinking, communicating, problem solving, and learning require both ***processes*** and ***knowledge***. This is important because it points out the near futility of attempting to improve cognitive ability simply by improving processes such as *reading*, *writing*, *critical thinking*, and so forth without recognizing that high levels of ability in performing these processes requires high levels of knowledge on which the processes can operate (Hirsch 1987). It is precisely because content knowledge plays such a large role in cognition that all major tests of *intelligence* assess vocabulary ***knowledge*** (frequently in what is called the *verbal* component of intelligence (Carroll 1982).

Because of the importance of knowledge to cognition and its development, cognitive scientists have made the study of knowledge a central part of their work. The focus of their study generally reflects the focus of their scientific discipline. For instance, ***cognitive anthropologists*** have studied how housewives use their knowledge of mathematics in

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grocery shopping; how literate and illiterate children in Brazil develop knowledge of mathematics involved in selling gum on the streets; and how dairymen invent mental labor saving knowledge for performing mathematics involved in filling milk orders (Rogoff and Lave 1984, Sternberg and Wagner 1986, Lave 1988). These and other studies suggest that the ***contexts*** in which people work affect the type of knowledge they develop about mathematics and how well they are able to perform tasks that involve the use of mathematics. They also show that there may be less transfer of mathematical skill from academic settings to applied settings (and vice versa) than one might have thought.

Cognitive psychologists have studied information processing in reading and have found that what a person knows about what they are reading greatly influences their ability to comprehend and learn from texts. In one study, young adults in a remedial reading program required 11th grade "general reading" ability to comprehend with 70 percent accuracy if they lacked much knowledge relevant to what they were reading. On the other hand, those with high amounts of knowledge about what they were reading were able to comprehend with 70 percent accuracy with only 6th grade "general reading" ability (Sticht et al. 1986).

The "architecture" of human cognition

The influence of ***computer scientists*** who strive to develop *artificial intelligence* has focused more attention on the role of knowledge in human cognition. It has also led to the concept of an "architecture" of a human cognitive system that is based on the metaphor of the mind as a computer (Chipman 1988, Wagner 1988). In this approach, the mind is considered to have a long term memory that stores knowledge. This long term memory is essentially infinite in capacity.

Additionally, there is a *working* or *short term* memory that contains our thoughts of the moment. The working memory calls on, or *addresses* knowledge in our long term memory, or what is sometimes called our *knowledge* or *data* base, and uses that information in the comprehending, learning, communicating, reasoning and so forth that it is involved in at the moment. But, unlike the long term memory, the capacity of the working memory is severely limited. We cannot keep too many things in mind at one time because of the limited capacity of our working memories. For instance, if we want to dial a telephone number, we may repeat the number over and over again to keep it in working memory long enough to dial it, then we can "dump" it and forget it.

Among the very important findings from studies of the limited capacity of working memory is that the capacity can be expanded if some of the mental processes involved are ***automated.*** For instance, in reading, it has been found that students who much occupy their limited working memory in decoding print to speech, as in phonics, cannot comprehend well what they are reading. Comprehension requires additional processing *space* in working memory, particularly in regard to addressing knowledge in long term memory and merging it with the new information picked-up from the book. In order to efficiently read and comprehend, it is necessary that the decoding aspect of reading become automatic, that is, performed without conscious attention. This can only be accomplished by hours and hours of practice in reading. This is one of the reasons why "quick-fix" reading programs cannot make much of an improvement in reading comprehension of those low in decoding skill. A second reason, of course, is that to improve reading comprehension much, one must develop a large body of knowledge in long term memory relevant to what is being read. Like skill, the development of large bodies of knowledge takes a long time.

The limitations of working memory are also a major factor in learning and applying mathematics (Kirsch and Jungeblut 1986). For instance, in trying to calculate the cost of a meal in a restaurant, the working memory must deal with the locating of information and comprehending the written description of what each item was and what it cost. If working memory space must also be given to recalling how to add, subtract, multiply and divide simple two or three digit numbers, while searching the check, there is much opportunity for mistakes. However, if one has automatized a large number of calculations, such as in learning the multiplication tables up to 12 or so, then calculations can be made ***while*** working memory space is left for searching and comprehending the check.

The concept of a ***human cognitive system***, with a knowledge base in long term memory and information processing in a limited capacity working memory, is one that has emerged over the last quarter century and was not understood in this sense when most of the intervention programs of the War on Poverty were designed and implemented. For this reason, the important implications of studies of these system components, their contents, and how they interact with one another and with the information in the external world "outside the head" was not incorporated into the design of these programs. And, for the most part, the knowledge that cognitive scientists have developed about this system has still not influenced education programs (mainstream or intervention) to the degree that it should.

Among the problems encountered are failures to adequately develop new knowledge on the basis of old knowledge, failure to develop knowledge in a systematic, progressive manner, failure to take time to review, consolidate and reorganize old knowledge in the face of new learning, and failure to detect and "repair" faulty prior knowledge that can interfere with new learning (this is an especially important problem in science, where "common sense" understandings are often simply wrong and interfere with the learning of concepts that are not "intuitively" understood).

Lack of understanding of the concept of the working memory and its limited capacity contributes to poor practices in the teaching of subjects such as reading and mathematics. For instance, decoding while reading and calculating in mathematics tasks are both ***lower order*** skills. By ***automatizing*** such skills through extensive practice, working memory is available for performing ***higher order*** processes, such as planning, comprehending, and monitoring one's understanding (Chipman 1988, Nickerson 1988). Frequently, insufficient time is given to practice in reading or to drill in basic arithmetic operations to automate the lower order skill components of reading or mathematics tasks.

Too often, attempts made to teach "higher order, critical thinking skills" or "learning to learn skills" may be ineffective because of insufficient attention to the requirements for content knowledge relevant to what one is supposed to "think critically" about, and to the need to overcome the limitations of working memory by automating component skills or tasks or by other techniques (such as taking notes) (Nickerson 1988). The concept of a human cognitive system with its knowledge base and working memory can serve as a useful heuristic for designing better educational programs.

Development of Cognitive Ability

A contemporary understanding of the development of cognitive ability entails a shift in understanding both the nature of and the origins of ***intelligence***. The old view considers intelligence as a one dimensional trait of an individual transmitted genetically as "potential" for learning and adapting to the environment. The new view considers that ***intelligence is multifaceted and acquired*** through the automatic operations of the genetically transmitted ***human cognitive system***. This system includes innately given "knowledge" in the form of brain structures and functions that "remember" the physical environment of the parents and produce sensory systems that construct perceptual knowledge (hearing sounds; seeing scenes) through their automatic functioning in the womb and later, after birth, in the physical environment. From this point of view, cognitive ability, in the form of content in long term memory and information processing in working memory are characteristics of the human infant even before birth. But the contents of the memory system are not known to consciousness. The acquisition of control over mental processes and innately given knowledge develops after birth and results largely from interactions with the physical environment. Among the latter, the most significant interactions for the development of intellectual ability are those that the newborn has with other people, most often the parents, and especially the mother, but also including other caregivers (Carroll 1982, Gavelek 1988, Wagner 1988).

The "nature" versus "nurture" argument

Up until the middle of the 20th century, intelligence had been thought of by many as largely biologically predetermined. The "amount" of intelligence an individual had was believed to be present at birth and to remain the same regardless of personal experience or formal training (Spitz 1986).

Another perspective, however, which argued that intelligence is due to experience and is malleable, had been proposed as early as the 17th century. These opposing points of view constitute a classic argument about intelligence that is known as the "nature" vs. nurture" debate. Is intelligence a biologically (nature) determined, innate potential or is intelligence an environmentally (nurture) determined, acquired potential (Spitz 1986)?

In the early decades of the twentieth century, the prevailing view was that it was intelligence that offered people their potential for learning and success. Since intelligence—and hence potential—was inherited, there was not much one could do for those of low intelligence. They were best put into protective custody and prevented from reproducing.

However, by the early 1950s, the views regarding intelligence had shifted from the "nature" side to the "nurture" side of the argument (Spitz 1986). Arguments were now put forth that intelligence was not genetically determined, but, rather, was due to the nature of the person's experience (Hunt 1961). It was argued that intelligence was malleable in early childhood, but that it reached about 80 percent of its adult level by age five or so (Bloom 1964). Hence, the groundwork was in place for the War on Poverty's emphasis on early childhood interventions to improve the intelligence of children from impoverished environments.

During this time, intelligence was still considered as primarily a unitary trait that a person acquired just so much of through experience. The operational measure of intelligence was the "intelligence Quotient-IQ," a single number that ranked the person's intelligence in relation to a norming group at each age level.

The development theory of Jean Piaget

A developmental model that tempered the strict environmentalist view of learning also became influential during the early 1950s and continues in influence today. Jean Piaget's theory is significant in at least two respects. First, it bridges both the "nature" and "nurture" sides of the intelligence debate and argues that biologically given intellectual structures unfold, much as embryological structures unfold, when thrust into a nurturing environment. Second, he proposes four mechanisms of cognitive development (maturation, experience, social transmission, and equilibration) through which the environment interacts with internal structures of the individual.

While Piaget's theory provides a conceptualization that allows a greater understanding of the structure and progression of cognition, his work does not address the role of knowledge in producing intellectual ability. Indeed, his theory predicts the same sequence of intellectual development as the person matures and experiences the world regardless of the particular nature of the knowledge domains encountered. Furthermore, it predicts that if a person reaches a given level of intellectual development, he or she is at that level in all domains of knowledge. But this is a prediction that has been disproven several times (Gavelek 1988).

Piaget's theory does not extend into adulthood. As in the case of conceptions of intelligence undergirding the early childhood programs of the War on Poverty, Piaget's conceptions of the development of cognition stress the malleability of intellect during childhood, not throughout the lifespan. Nor does Piaget's theory of intellectual development directly address the intergenerational transfer of cognitive skills. In his theory, the individual is the focus and the role of social influence is merely to facilitate the automatic unfolding of biological, cognitive structures. However, his work did underscore the potential that was available to all children with the proper life events to bring it about (Gavelek 1988).

In the late 1950s and early 1960s, this new understanding of cognitive ability based on the influence of environment plus the developmental theory of Piaget provided hope for a better future for all, and offered an acceptable explanation for the correlation between minority group status, poor school achievement, and poverty. The presumed connection between minority group status and poverty was poor environment. Pursuing this theoretical perspective, the government implemented a number of social programs designed to improve the early environments of "disadvantaged" youth. . . . the results were not all that it was hoped they would be. It has been suggested that part of the reason for these results was the understanding of human intelligence in place at the time (Gavelek 1988, Wagner 1988).

A New Perspective: The Social Basis of Mind

Most discussions of the "nature and nurture" of human intelligence or cognitive abilities have focused on the innate capacities transmitted to the individual at birth as establishing the person's "potential" for cognitive development in interaction with the environment. This "interactionist" view of intelligence starts with the individual and attempts to determine the important factors that influence the individual's cognitive development.

A sociocultural view of cognitive development

A newer view of cognitive ability does not start with the biology of the individual or with the environment, but, rather, with the culture and society into which the individual is born. While genetics provides the anatomical structures and physiological functions that make the individual capable of cognition, and the physical environment (nutrition; gravity; light; structures such as trees, etc.) makes possible existence as a functioning biological organism, society and culture provide the most important resources for human cognitive development. These resources include symbols and symbol systems, such as the natural language and conceptual (in contrast to perceptual) knowledge, which constitute the primary means for the transmission of cognitive abilities. Very importantly, social groups direct the person's cognitive development through the ***value*** placed on the learning of certain skills, thereby providing the all important ***motivation*** for engaging in learning and behavior that lead to an individual's cognitive development beyond that resulting from untutored experience in the world. In this view, the society and culture provide the context into which the individual begins his or her experience. The raw materials mentioned before are all present without the intervention of society, of course—the planets and trees and colors and gravity—but they would make no sense to the individual without the teaching of others. Societies possess language and communication and the other tools for comprehending, explaining, thinking about, and elaborating upon all of human experience. So, while previous views of cognitive ability suggest that there is some sort of innate potential that exists within an individual, another view would suggest that there is potential within the sociocultural context for development of the individual. The individual is born into a society of potential intellect. Knowledge will develop largely based on the evolution of intellect within the society and culture.

The social nature of mind

The sociocultural view of cognitive ability was advanced in the early 1900s and has recently regained interest among cognitive scientists as social constructivism and contextualism has emerged (Gavelek 1988, Rogoff and Lave 1984, Cole and Serpell 1988, Cole and The Laboratory of Comparative Human Cognition 1988). The sociocultural theory of cognition attempts to explain the cognitive development of the species and social groups (cultures) as well as individual development. In this theory, all higher psychological functions exist first and foremost in the interaction between individuals. Initially, the child has no way of understanding or communicating his or her experiences. It is through the teaching of parents and other members of the community that children come to understand the world they inhabit. Of course, the knowledge and values that caregivers have to pass on to their offspring reflect their particular social and cultural groups. Hence, the cognitive skills that the individual will develop incorporate the knowledge and ways of thinking of the culture into which she or he is born.

Language and cognition

The cognitive ***tools*** of the culture form a significant share of the knowledge transmitted as cognitive ability. These tools include, among other things, language and organized bodies of knowledge. Of these, language is the cornerstone of society. By learning the language, the child is introduced to the shared knowledge of the community. Parents, no matter what their socioeconomic or educational level, interpret the world for their children. Early learning takes place through the internalization of this interpretation of the world. Later, after the internalization of the ideas of the parents and society, children begin to use the language internally to guide their thinking and to function independently. Language, including the written language in literate groups, is the unifying tool for the culture. As language is developed, so are social norms, cultural beliefs and values (Reder 1988).

Motivation and the value of learning

It has been argued that cognitive ability alone cannot account for achievement (Scott-Jones 1988). In addition to language and other cognitive tools transmitted to new members of society, there are important motivational conditions transmitted as well. These motivational states help to determine the level of achievement by community members. ***Cognitive sociologists*** have referred to the motivational aspect of social communities as *social capital* (Coleman and Hoffer 1987). People learn information that corresponds to their view of the world—and they learn skills that will be meaningful to them. Children who are born into poverty and unemployment may not see the value of formal education, much less the learning of calculus. They may not think that it makes any difference to them. As adults, they are likely to pass on similar beliefs and attitudes to their offspring (Ginsburg, Bempechat, and Chung 1988; Schorr 1988; Coleman and Hoffer 1987).

In addition to messages about the value of learning, people also receive messages that help them determine whether or not they are capable of learning. They learn well, or not, depending on their view of their own ability to learn. An example of this motivational condition is the way the culture responds to failure and errors. There are culturally transmitted attitudes about the probability of learning successfully after one has initially failed to learn. These attitudes can greatly affect future learning (Scott-Jones 1988).

The individual within the group

From this perspective, the importance of the social and cultural niche on the development of cognitive ability in the individual can be seen. The broad features of the society, such as the technologies it possesses and the sophistication of the language, and the values placed on certain abilities such as mathematics can be predicted to largely determine the potential of the individual. These broad features will be interpreted through the local community, and will influence the extent or direction of development. Therefore, noncognitive aspects of the environment such as motivation are important as well and strongly influence the degree to which individuals will achieve.

But it is not the social environment alone that determines development. The individual and the way in which all of these experiences are interpreted, will make the rest of the difference. Cognition occurs within the context of a "mental model" that is built by the individual in response to experience in the world. This mental context both results from and results in the individual's unique cognitive development.

In spite of sociocultural similarities for a group of individuals living together, there are often huge differences in the ways in which these individuals develop. The culture of the individual, the community, the neighborhood, social organizations and the family will all influence the ideosyncratic experience of the world by the individual, but the experience will be ideosyncratic. Because, just as pervasive as is the influence of the culture, it is just as true that each individual is unique. One often hears of comparisons made between individuals born in the same family who appear to have no real biological differences in learning ability but nevertheless achieve at much different levels. One of the explanations for this phenomenon is that no one ever experiences the world exactly the same as anyone else. As one ***behavioral geneticist*** has noted, there is frequently as much variability in intelligence within families as there is across the entire population (Plomin 1988).

There are aspects of the culture that are shared by individuals and those that are not shared by individuals. It is these unshared aspects of the environment which have the most importance for individual differences. As noted, the variance in cognitive ability within families may be as great as that across families not sharing the same environment. By concentrating on mean differences between large groups of people, this important aspect of individual differences has been overlooked. To understand an individual's cognitive development, the ***context*** of the individual should be studied, including both the environmental (physical and social) context ***external*** to the person, and the ***internal*** context of the person's "mental model." While this greatly complicates the study of human cognition and its development, it is the only way to fully understand the growth of individual intellect.

New Directions for Future Interventions

There are several aspects of contemporary concepts of cognition and its development that are different from earlier concepts and which offer new directions for intervention programs. First, the social basis of intellectual development focuses on the role of social interactions in the intergenerational transfer of cognitive ability. It emphasizes the need to develop the ***social capital*** needed to provide cultural knowledge and the values needed to sustain the learning of such knowledge.

Second, there is a new appreciation of the role of ***content knowledge*** in cognitive ability. There is an old saying, "you gotta know somethun' to learn somethun." It is vast bodies of knowledge that appear to give people the edge on learning more and more efficiently. From this perspective, earlier attempts to improve "intelligence" as a unidimensional "trait", or even achievement in "reading" as a pure processing skill, independent of the content being processed, appear inappropriate. The development of ***human capital*** requires greater attention to the role of content knowledge in cognition.

The concept of a ***human cognitive system*** implies a more analytic approach to cognitive development than the unitary trait conception of intelligence, one that addresses information processing within the cognitive system. Detailed cognitive task analyses reveal the interweaving of contexts, tasks, knowledge, and information processing by a person or groups of people involved in socially organized activities. The complexity of the interactions of these aspects of cognitive task performance suggests that much more attention should be given to teaching within the ***functional contexts*** in which we expect people to become active. This not only facilitates learning, it also facilitates transfer of learning to operational settings.

Finally, the new understanding of the role of specific knowledge, functional contexts, and social interactions in cognition suggests that ***cognitive development can be considered as a lifelong activity***. New knowledge acquired in workplaces, during vacation travel, and so forth, all contribute to the cognitive ability of the person. Because such experiences tend to be more varied than the school-based experiences of children, adults are likely to develop more varied cognitive ability. This makes it difficult to make uniform, universally suitable assessments of cognitive development in adulthood. This is a challenge for assessment.

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Reflection on Reading 5

- According to the reading, what is the role of rote learning in the cognitive process? What implications does this have for your workplace literacy instruction?
- What comprises the dual nature of cognition? How do the two aspects differ?
- What does a sociocultural perspective add to your understanding of cognition?
- Can you influence your learners' cognition? If so, how?

Employ Strategies for Individualizing Instruction

- Using the WDP form included in the readings, work with two learners from your class or a colleague's class and develop a WDP with them.
- Plan a lesson for a multi-level class.
- If you are currently teaching, engage your class in generating curriculum materials for the lesson you chose above. If you do not currently have a class, ask if you can work with another instructor's class to develop materials for that class. Write a prototype scenario to use as a sample with the class.
- Keep a journal of your activities as an instructor for one week. In your journal, focus on your reflections and actions related to the concept of *cognition*. Share your journal with a mentor or reviewer for discussion ***if*** you so choose.

TOPIC: Employ Strategies for Individualizing Instruction

Evaluation Guidelines

Directions: Check your competency with the following criteria:

Learner Self-Check	Did you—	Review Checklist	Did the learner—
☐	1. Develop a WDP for each learner that— a. includes all standard information?	☐	
☐	b. involved the input of the learner?	☐	
☐	c. builds on the learner's present educational levels?	☐	
☐	d. sets reasonable short-term objectives for the learner?	☐	
☐	e. includes appropriate objective criteria and assessment procedures and schedules for measuring learner achievement?	☐	
☐	2. Plan a lesson for a multilevel class that— a. purposefully allows for different learning styles?	☐	
☐	b. incorporates one or more strategies appropriate for such a setting (e.g., contracts, self-directed project work, cooperative learning)?	☐	
☐	3. Develop a scenario that— a. provides learners with a model?	☐	
☐	b. could be easily read and understood by learners?	☐	
☐	4. Guide learners in developing their own curriculum materials?	☐	
☐	5. Deepen your understanding of the concept of cognition through the keeping of a journal?	☐	

Learner: _____

Reviewer: _____

Level of Performance: If the evaluation results indicate a need for further competency development—or if the learner wishes to pursue the topics covered in further breadth or depth—please refer to the supplementary resources described in the Annotated Bibliography, which follows.

Conderman, G. J., and Campton, M. "Experiencing the Change Process: A Personalized Approach for IEP Writing for Preservice Teacher Training Programs." Paper presented at the Teacher Education Division of the Council for Exceptional Children Conference, *Changing and Affecting Change*, Cincinnati, Ohio, November 1993. (ED 364 047)

This paper described an activity developed at the University of Nebraska to familiarize prospective teachers with the process of developing Individualized Education Programs (IEPs) for students with disabilities. The activity, titled "Experiencing the Change Process: Writing a Personalized IEP," acquaints students with the major IEP components. After students are taught about the requirements of the IEP and apply these to sample case studies, they develop their own IEPs which include a statement of present level of performance, goals, objectives, and methods of measuring each objective. Students periodically monitor, report, or document progress toward their personalized IEP goals and objectives. A pretest and a sample personalized IEP form are attached. (DB)

Conti, G. J., and Fellenz, R. A. *Assessing Adult Learning Strategies*. Bozeman, MT: Montana State University, Center for Adult Learning Research, 1991. (ED 339 847)

The Self-Knowledge Inventory of Lifelong Learning Strategies (SKILLS) was developed to measure adult learning strategies in real-life learning situations. SKILLS consists of a series of 12 scenarios from real-world situations that reflect Shirk's (1990) nine general categories of learning for real-life situations and that necessitate various types and levels of learning. Questions assess how likely an individual is to use specific strategies for dealing with the learning problem. The instrument can be completed in 20 minutes and can be self-scored. SKILLS is based on five aspects of the learning process: metacognition, metamotivation, memory, resource management, and critical thinking. Field tests with 253 adult learners showed that SKILLS has construct, content, and criterion-related validity and that it is reliable. SKILLS is being refined to increase the discriminating power of individual items, to strengthen its reliability, and to make it more relevant to respondents. The final form of the instrument may be used to help people think about how they learn and to test various learning strategies with adults. (KC)

Cornett, C. *What You Should Know About Teaching and Learning Styles*. Bloomington, IN: Phi Delta Kappa, 1983. (ED 228 235)

Teaching strategies are offered in recognition of the existence of different learning styles. Learning style instruments are also discussed.

Cranton, P., and Weston, C. B. "Considering the Audience." In *Planning Instruction for Adult Learners*. Middletown, OH: Wall and Emerson, 1989.

This chapter discusses learner characteristics: age, gender, educational background, intellectual characteristics, including cognitive styles, affective/personality characteristics, perceptual and motor characteristics.

Cranton, P. "The Adult Learner." In *Working with Adult Learners*. Middletown, OH: Wall and Emerson, 1992.

Among other topics, this chapter talks about learning styles and developmental phases.

Guild, P., and Garger, S. *Marching to Different Drummers*. Alexandria, VA: Association for Supervision and Curriculum Development, 1985. (ED 269 839)

Examines learning styles, teaching styles, leadership styles, and psychological types and the importance of style in education.

Jones, B. F.; Palincsar, A. S.; Ogle, D. S.; and Carr, E. G. "Strategic Teaching: A Cognitive Focus." In *Strategic Teaching and Learning: Cognitive Instruction in the Content Areas*, edited by B. F. Jones et al. Alexandria, VA: Association for Supervision and Curriculum Development, 1987. (ED 268 858)

This collection of essays focuses on the strategic teaching model of cognitive instruction, a model that explains what a complex thinking process teaching is, highlights the importance of the teaching/learning connection, and aims at enabling all types of students to become successful learners.

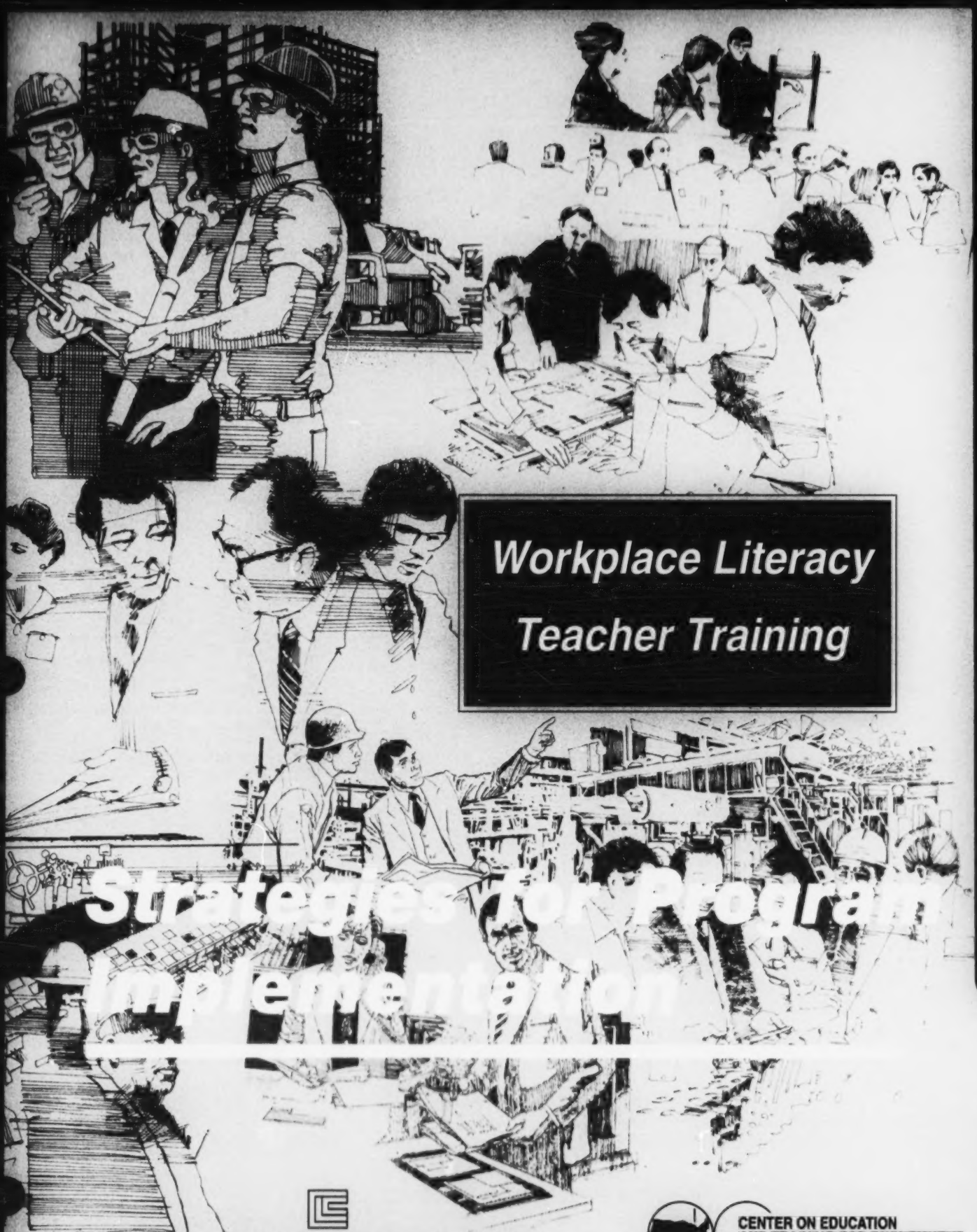
Rosenberg, J. M. *Learning and Gender Fair Teaching*. New Britain, CT: Central Connecticut State University, 1989. (ED 351 604)

This learning unit is designed to sensitize educators to gender differences in learning styles, to help identify specific needs and issues for women adult learners, to help educators to identify their own gender biases, and to help teachers to develop strategies for eliminating gender bias from their own classrooms. The unit is divided into three sections: (1) gender differences in learning styles, (2) adult learners, and (3) gender fair instructional techniques and classroom interactions. Each section includes didactic materials, experiential learning activities, student worksheets, and transparency templates. (RC)

Sticht, T. G.; Beeler, M. J.; and McDonald, B. A., eds. *The Intergenerational Transfer of Cognitive Skills*. Norwood, NJ: Ablex Publishing, 1992.

Volume One, *Program, Policies and Research Issues*, examines programs and policy related to the development of the cognitive skills of underachieving American children, youth, and adults. Programs developed in the 1960s as part of the War on Poverty are contrasted to the intergenerational transfer of cognitive skills, which argues that the best way to influence the cognitive development of citizens is to educate adults because this education will transfer to the adult's children.

Volume Two, *Theory and Research in Cognitive Science*, examines the cognitive science theory and research related to the transfer of cognitive skills across generations. Theoretical issues are related to conceptions of cognitive development, including literacy, mathematics, higher-order thinking, and intelligence. Programs of instruction for minority populations are examined with the framework of the influence of culture on cognitive development.



Workplace Literacy Teacher Training

Strategies for Program Improvement

COLLEGE OF LAKE COUNTY

CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
COLLEGE OF EDUCATION
THE OHIO STATE UNIVERSITY

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Tutoring/Mentoring

Facilitate Tutoring/Mentoring in the Workplace

Introduction

It has been known for centuries that people can help others learn. The teaching profession is founded on this fact. What has emerged as an understanding more recently is that a person does not need to be an educated professional to help others learn. Although teachers learn special skills and strategies that are important and indeed invaluable, others can be of assistance also, especially if they are working in concert and close communication with a teacher. They can be even more effective if they have had some training in what constitutes their helping role and how to carry it out.

As long as traditional teacher-directed classrooms were the norm in educational programs, the environment was not psychologically conducive to having others assist in the learning process. The teacher was expected to be the "expert" and the dispenser of knowledge. Further, the teacher was expected to be the authority, making the decisions about what was to be learned and how, and then directing the learning situation accordingly.

Now that the ongoing study of teaching and learning indicates that participatory, learner-centered, and more learner-directed education tends to result in more effective learning, a significant shift is taking place. It is not as uncommon for teachers to think of themselves, and be viewed by others, as facilitators and coaches. Additionally, given that literacy is a social process[1, 2] and "that everyone has something to share, something worthwhile to contribute, as well as something to learn,"[3] a learning environment is more likely to evolve in which people would naturally feel less hesitant to help and in which their help would be perceived as more valuable than before.

In this environment, wonderful opportunities can emerge for workplace literacy programs to engage more people in more diverse roles, all involved in lifelong learning with a helpful spirit and a team attitude. The participatory, collaborative approach to learning involves the viewpoint that people are responsible for each other.

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1. M. B. Bingham et al., *A Teacher in a Different Way: Group Literacy Instruction in Tennessee* (Knoxville, TN: Center for Literacy Studies, University of Tennessee, 1990). (ED 326 672); R. Ennis, "Learning in Small Adult Literacy Groups," *Australian Journal of Adult and Community Education* v30/n2 (July 1990): 105-110.

2. R. Ennis, "Learning in Small Adult Literacy Groups," *Australian Journal of Adult and Community Education* v30/n2 (July 1990): 105-110.

3. D. Clark and V. K. Lawson, eds., *Small Group Tutoring: Basic Reading. Administrator's Guide* (Syracuse, NY: Literacy Volunteers of America, 1990).

People can help people in numbers of ways; certainly what we will put labels on for reasons of discussion and purposeful programming (e.g., cross-age tutoring, peer tutoring, and mentoring) has often happened informally. What is beneficial in formalizing such relationships as tutoring and mentoring is that they are then examined and reflected upon for improvement. The desired outcomes for learners can be enhanced by careful selection of "helpers," dialogue about the role to be played, provision of training or at least tips to follow, and monitoring and follow-up. In the absence of such reflection, teachers have sometimes assumed that tutors will "know what to do" and have turned over to them what only professionals could be expected to do adequately; or the reverse, have not felt comfortable trusting to chance and so engaged helpers in only menial tasks. Both situations can be addressed consciously.

Furthermore, equitable access to tutors and mentors can be assured by a more, rather than less, formal system. And last, although it sometimes goes unrecognized, the learners themselves can be helped more effectively if they are prepared for the relationship.

All involved are likely to benefit from the time and effort it takes to make a program component more formalized. Mentors and tutors will become more conscious of the degree of real commitment necessary and will not opt in lightly or because this type of experience would "look good on their resume." They will gain an awareness of the sensitivity needed for their role.

Objectives

- Identify the characteristics and benefits of peer tutoring.
- Identify key content and strategies for a training program for peer tutors.
- Explain how mentors can be used to support the literacy development of learners.
- Develop a plan of activities for structuring a tutoring or mentoring program in the workplace.

To Help You Meet the Objectives

- Study the material that follows:

  Reading 1: Peer Tutoring in Adult Basic and Literacy Education

  Reading 2: Technique for Remediation: Peer Tutoring

  Reading 3: Structuring the Mentor Role: Qualifications, Recruitment, Selection, and Rewards

  Reading 4: Working as a Mentor

  Inviting/Disinviting Signals: Verbal Comments, Personal Behaviors

- Reflect on the questions posed after each reading. The questions are designed to help you clarify and extract meaning from the reading that can be helpfully applied. There are benefits to both individual and interactive reflection—
  - ~ As an individual, consider how you would apply the information either in the program to which you are already assigned or in a program to which you might be assigned.
  - ~ If you are able to discuss these questions with other instructors or program staff, try to get other perspectives on the reading. Compare notes on the ways the ideas can be and have been applied in their experience. If the experiences differ, help each other probe the possible reasons for the differences.
- Complete the Application Activity.
- Evaluate your own competencies using the Evaluation Guidelines. This is an opportunity to assess your own learning and identify any areas in which you feel less competent or confident. If indicated or desired, take advantage of the opportunity to review the related material in the Annotated Bibliography. You may also want to seek out a more experienced person who can be a mentor to you on this topic, helping you assess your competency and acting as a resource person.
- Ask your reviewer to evaluate your skills also. Be sure to note the input from the reviewer that can provide the basis for your further competency building.

To Help the Reviewer Guide and Evaluate Learner Performance

These learning guides have been designed to allow for maximum flexibility of use. For those individuals using them for professional development (without ties to a formal program), the guides allow for self-study. Such use may, however, limit the opportunity for interaction and practice in a group setting. Therefore, if learners are completing these guides in a group setting under your direction, it is strongly recommended that you identify such opportunities and capitalize upon them.

Reflection questions at the end of each Reading and an Application Activity and Evaluation Guidelines at the end of each learning guide provide opportunities for you, as a reviewer, to monitor learner progress and evaluate learner performance on the workplace literacy knowledge and skills being developed. However, your expectations should be based somewhat on the learner's background (e.g., previous instructional experience) and the learner's progress in the program. Individuals with previous experience as instructors in workplace literacy programs should be expected to extend their thinking and activities beyond the level expected of those without such experience.

For example, if the learner is asked to "define company culture," individuals ***without*** instructional experience would be expected to respond solely on the basis of their reflections concerning the readings provided within the guide. The responses expected of individuals with instructional experience, however, should go beyond the readings, incorporating their real-world experiences as well. Likewise, as individuals complete more and more of the learning guides, their work should reflect that progress. Knowledge and skills gained in earlier guides should be ***integrated*** into their reflections and activities as they work through later guides.

Flexibility can also be provided concerning how the learner will demonstrate competency. At a minimum, the learner should submit ***written*** descriptions, definitions, and explanations to demonstrate successful completion of the Application Activity. These should be evaluated—by both you and the learner—using the criteria provided in the Evaluation Guidelines. If feasible, however, you should also arrange to meet with the learner to discuss his or her written documentation. At that time, you could also pose hypothetical or actual situations related to the skill criteria and ask the learner how he or she would handle those situations. Another possibility would be to ask individuals to perform the skill as part of a presentation or demonstration to others in the class or group.

It is also desirable that, whenever possible, you and the learner identify opportunities for expanding on the learning experiences presented in the guide—ways for the learner to apply the learning more deeply and broadly. The question, "What plans do you have for learning more about the skill covered in this guide?" could well be a standard one. In many cases, the learner can use his or her work in the Application Activity as a building block for further exploration.

In summary, the learning situation is not one in which strict criterion-referenced standards based on percentage attainment or mastery levels are suitable, nor would one mode of demonstration be feasible—or appropriate—for everyone. You and the learner should discuss and reach agreement in advance on the level of achievement expected and mode of demonstration to be used so as to create the optimal learning experience. The intent is for the learner's professional development to be competency-based, rigorous, and designed to motivate further learning, yet sensibly adapted to the situation and to the learner's needs and abilities. Hopefully, the learners will carry this flexible philosophy and approach into their own workplace literacy programs.

PEER TUTORING IN ADULT BASIC AND LITERACY EDUCATION
ERIC Digest No. 146 by S. Imel
Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, 1994 (ED 368 891)

Peer tutoring should happen in every class. I learned a lot from helping Betty. I learned that she is an understanding, loving, quiet, shy person. I understand her for who she really is. I learned that I liked to teach. By helping her, I got to learn the meaning or the spelling of a word that I didn't know before. (Goldgrab 1992, p. 134)

These words of an adult literacy learner provide testimony to the power of peer tutoring. Yet, adult basic and literacy educators have been slow to adopt this approach, sticking instead to the more traditional, one-on-one, individualized approaches to instruction. However, support for more participatory approaches is growing (Imel, Kerka, and Pritz 1994). Like many small group learning approaches, peer tutoring can be used to sustain a more participatory learning environment. Part of the reluctance to adopt peer tutoring methods may be attributed to lack of information about using this strategy in adult settings. This *ERIC Digest* provides an overview of peer tutoring in adult basic and literacy education.

Peer Tutoring: What?

A number of terms, including *partner learning* (Dueck 1993) and *peer teaching* (Whitman 1988), have been used to describe the concept of peer tutoring. In the adult education literature, the term *peer* is sometimes used to describe any adult working with a learner (e.g., McLachlan 1990, Pearpoint and Forest 1990) as opposed to learners working together as peers. As used in this *Digest*, peer tutoring refers to the process of having learners help each other on a one-to-one basis (Dueck 1993). Two types of this kind of peer tutoring are found in adult literacy and basic education: (1) ***near peer*** in which one learner is more advanced than the other; and (2) ***co-peer*** in which the learners are fairly well matched in skill level (Whitman 1988).

Examples of near peer pairings include more academically capable learners working with those experiencing difficulty. When co-peers are paired, learners are able to work together as equals and gain a better understanding of the materials by learning from each other. Although most peer tutoring is done with pairs of learners, sometimes having learners work in groups of three better meets the needs of both the learners and the learning task (Dueck 1993).

Peer Tutoring: Why?

The old adage, "those who teach learn twice," holds true for peer tutoring and is frequently given as the basis for using the approach. Although a teacher can anticipate problems, questions, and concerns, no teacher can learn for another individual. Thus, when peer tutoring is adapted, learning becomes much more effective because learners are teaching themselves (Whitman 1988).

Peer tutoring can enhance learning by enabling learners to take responsibility for reviewing, organizing, and consolidating existing knowledge and material; understanding its basic structure; filling in the gaps; finding additional meanings; and reformulating knowledge into new conceptual frameworks (Dueck 1993, Whitman 1988). In either co-peer or near peer situations, both learners are likely to understand the material better by applying it in the peer tutoring setting.

Goldgrab (1992) describes an adult literacy program in Canada in which peer tutoring was adapted as a practical solution to helping the teacher deal with the large size of the class. However, both the teacher and the learners quickly realized the educational benefits of the approach for adult learners. Although some learners wanted a more traditional education with the teacher in front of the class, adults learn most effectively "from their common experiences, by identifying

their own learning needs, taking ownership of their own learning, and taking an active role in evaluation" (Goldgrab 1992, p. 132).

Peer tutoring can also benefit adult learners by helping them to—

- reach the goal of self-determination as well as develop a tolerance for uncertainty and conflict
- move away from dependence on professional authority toward belief in their own ability to create knowledge
- polish their communication skills
- persist in the learning situation because of bonds developed with other learners
- increase both their motivation to learn and their self-esteem

(Dueck 1993; Goldgrab 1992; Randels, Carse, and Lease 1992; Schneider 1989; Whitman 1988).

Peer Tutoring: How?

Adult literacy programs that are already using collaborative, participatory methods will find peer tutoring to be an extension of their overall approach. However, in programs that use more traditional individualized or large group instruction, both learners and teachers will find that peer tutoring changes their roles as well as the learning environment.

When peer tutoring is used, the instructional environment usually becomes more learner (as opposed to teacher) directed, and the learners have a more significant role in helping shape the learning (Imel, Kerka, and Pritz 1994). The teacher becomes a co-learner and facilitator, acting as a guide and a coach. The teacher is no longer the person with all the answers; instead, the teacher talks with learners and offers opinions, explores strategies, and helps set goals (Goldgrab 1992).

Preparing Learners

Because peer tutoring changes the nature of the teaching/learning transaction, learners should be prepared to assume their new roles as peer tutors. Whether working in co-peer or near peer tutoring situations, learners need to be alerted to the importance of social skills in successful learning partnerships. Reminding adult learners of the connection between peer tutoring and the social skills that many already possess can help learners communicate more effectively, express support for each other, clarify their thinking, and understand their underlying feelings. Practice in encouraging, restating, clarifying, validating, and summarizing can help them assume their role as a peer tutor (Dueck 1993).

Setting the Stage

In implementing peer tutoring in adult basic and literacy education programs, the teacher's main role is to help the learners establish individual learning programs and then contact their peers for assistance (Goldgrab 1992). Teachers and learners can effectively set the stage for the introduction of peer tutoring by—

- ***Identifying learner strengths and weaknesses in order to match learners effectively.*** Adult learners can participate in this process by indicating what things they can do well and with which areas they would like assistance.
- ***Considering which learners might work well together and providing opportunities for work with different peers at separate times.*** Again, adults can be asked with which learners they might enjoy working. Also, the teacher may observe that some learners have preestablished relationships that could be used to build peer tutoring pairs.
- ***Having learners prepare and discuss lists of what they want in a "perfect" learning partner.*** These lists may help learners understand that no one individual may possess all the desired characteristics. The lists might also help learners with the task of identifying their own strengths and weaknesses.
- ***Providing for open discussion about ways in which people learn so that learners recognize that, although they may have preferred styles, there are benefits to learning in other styles.*** Asking adults to identify situations in which they were particularly successful learners, and why, can initiate a discussion on learning styles.
- ***Creating activities that enable learners to have practice teaching each other and then reflecting on these experiences.*** Part of the reflection can include responding to such questions as "The best thing that happened today was . . . ;"

"One thing that didn't go to well was . . . ;" and "Something I'd like to change is . . . ." By answering these questions, learners can think about changes they would like to make and develop a regular habit of reflecting on and learning from their peer tutoring experiences (adapted from Dueck 1993).

Peer Tutoring: Adult Learners' Perspective

In a brainstorming session, adult literacy students experienced in peer tutoring listed the following ideas about what is necessary for success:

- Peer tutoring should be encouraged in a class where the teacher is comfortable using it.
- Everyone should give positive feedback.
- An attitude of equal treatment should exist among co-learners.
- The learners should be willing to work together.
- The structure of the program is an evolutionary process.
- Both the teacher and the adult students learn from one another.
- The teacher must be committed to encouraging peer tutoring and using it.
- Trusting the teacher and the other learners is important.
- The teacher should understand the limits of the learners and not push. (Goldgrab 1992, p. 136)

Using the peer tutoring approach in adult basic and literacy education has much to recommend it. Like any other method, it must be used appropriately and learners must be prepared for it.

References

Dueck, G. *Picture Peer Partner Learning: Students Learning from and with Each Other.* Instructional Strategies Series No. 10. Saskatoon: Saskatchewan Professional Development Unit, 1993. (ED 360 308)

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Reflection on Reading 1

- In the context of peer tutoring, define the terms *near peer* and *co-peer.*
- On what basis might near peer and co-peer pairings be made in a workplace program?
- How can teachers and learners set the stage for peer tutoring?
- Explain the statement, "In either co-peer or near peer situations, both learners are likely to understand the material better by applying it in the peer tutoring setting." Have you had (or observed) an experience that illustrates this point?
- Why would it be important for a peer tutor to know about the learning style characteristics of the person being tutored? Why would it be important for a peer tutor to know about his/her own learning style?
- How would you respond if the use of peer tutoring were criticized as being "the blind leading the blind" and as encouraging the "sharing of ignorance"?
- Why do you think a learner might prefer to learn a concept with a peer tutor rather than from an instructor?

Adapted from *TECHNIQUE FOR REMEDIATION: PEER TUTORING*
In BASICS: Bridging Academic and Vocational Skills
Columbus, OH: National Center for Research in Vocational Education,
The Ohio State University, 1987 (ED 288 962)

Introduction

Research Finding:

Students tutoring other students can lead to improved academic achievement for both student and tutor, and to positive attitudes toward coursework.

Comment:

Tutoring programs consistently raise the achievement of both the student receiving instruction and those providing it. Peer tutoring, when used as a supplement to regular classroom teaching, helps slow and underachieving students master their lessons and succeed in school. Preparing and giving the lessons also benefits the tutors themselves because they learn more about the material they are teaching.

What Works:
Research about Teaching and Learning
U.S. Department of Education, 1986

The educational benefits of peer tutoring are many. In this time of declining resources and increasing emphasis on basic academic skills, educators are seeking ways to make their teaching more effective. Of particular concern to workplace educators are learners with remediation needs that hamper their success in technical training programs. Peer tutoring is a cost-effective, easily implemented, proven strategy. If properly planned, implemented, and evaluated, peer tutoring can be a valuable support program for all learners.

Definition

Peer tutoring is an instructional technique used successfully with students at all levels to achieve academic and social development goals. Collaborative learning through peer tutoring can be beneficial for both normal students and those with disabilities. Benefits for the tutee include increased individualized attention, closeness to the instructor, and improved learning efficiency. Positive gains have been shown in academic achievement, social integration, and cognitive skill development with various types of tutoring, including peer, cross-age, normal-handicapped, and handicapped-normal, in which handicapped learners serve as tutors for normal learners (Asselin and Vasa 1983, Holder and Lister 1982, Osguthorpe 1984, Ford and Russell 1983).

Benefits

Initially, tutoring programs were developed to help the tutees improve their academic progress; however, it has become generally accepted through research that the tutors also gain in their understanding. Teachers who use peer tutoring also benefit in several ways. First, their teaching load is reduced somewhat, allowing more time to help other students. Teachers also find that both tutors' and tutees' attitudes toward education in general improve through peer tutoring.

Peer tutors are able to identify with the tutees. Not only do tutees receive individualized instruction, they also discover their own strengths and boost their self-confidence as they learn. They are exposed to positive role models and interact with and learn from other students (their tutors) who have overcome similar problems. Tutors themselves also develop self-confidence, self-esteem, and teaching skills.

It has been recognized for some time that relationships between ethnic groups may be improved through the use of peer tutoring. As Dixon (1975) notes, "There are . . . factors which make peer tutoring particularly appropriate in bilingual/bicultural classrooms" (p. 2). For example, cultural values of Mexican-American children are such that they perform best when placed in educational settings in which they are able to relate directly either to the teacher or other students. Dixon further states that "what we currently know about (Mexican-American learner's) cognitive style makes a strong case for the use of peer teaching activities as a regular rather than incidental part of the curriculum" (p. 4). In sum, if peer tutoring techniques in the bilingual/bicultural classroom reflect the cultural values of the learners involved, learning can be enhanced.

Effective tutoring programs include attention to tutor training, as trained tutors can perform more effectively than untrained tutors in terms of their tutees making significantly greater gains.

Train Tutors

In many tutoring programs, the program coordinator is responsible for training tutors. The coordinator plans and organizes the training sessions, using the expertise of content specialists and teachers when appropriate. Other resource people, such as reading specialists and special education or technical education specialists, can also be part of the tutor training program.

Tutors should not be expected to diagnose special needs problems, but they should be trained to be alert for special needs by following proper guidelines and examples. When group tutoring sessions are planned, training should provide group dynamics information to prepare tutors to work effectively with more than one student at a time. Training should also prepare tutors to deal with problem behaviors and emergencies.

Tutor training programs typically include material as discussed in the following sections.

Define the Role and Limitations of the Tutor

Tutors need to have a clear understanding of their role; training should specify exactly what a tutor should and should not do in various situations. Examples include the following:

- The tutor should be positive and encourage the tutee.
- The tutor should not complete work for the tutee, but should only assist the tutee.
- The tutor should not accept or endure problem situations, but should be instructed to refer such matters to a teacher or coordinator.

Tutors' roles will vary depending on the particular subjects being tutored and the unique needs of the learners.

Prepare Tutors to Use Specific Tutoring Methods

A vital part of tutor training is preparing tutors to use a variety of methods and choose those that best fit specific subject areas. The following tutoring techniques (adapted from Duncan-Hall, n.d.) can be employed to increase tutees' interest.

1. ***Vary vocal communications patterns.*** Tutoring should not be a monologue, but a combination of short explanations and more extended discussion-questioning periods that allow for tutee participation. Specific methods include the following:
   - Lecture/explanation
   - Questions and answers
   - Tape recordings
   - Discussion
   - Games
   - Songs, music/demonstrations
   - Changes in voice pattern or volume

2. ***Vary visual communication patterns.*** The use of visual aids can improve tutoring. The tutor can determine what aids are helpful for a specific subject through experimentation. Blackboards are still the most commonly used visual aid. Other aids that are suited for tutoring include the following:
   - Photographs/pictures
   - Models
   - Calculators
   - Computers
   - Overhead projectors
   - Maps/graphs/diagrams
   - Movies, videotapes
   - Flash cards
   - Sign language/interpreters for hearing impaired)
3. ***Vary the content of tutoring sessions.*** Tutoring sessions will deal with an assortment of related problems, questions, and concepts. To maintain the tutee's interest and prevent sessions from dragging, the tutor must be perceptive and switch approaches to vary the focus. Other variations in approach include the following:
   - Subject change
   - Major topic to subtopic
   - Specific to general (inductive)
   - General to specific (deductive)
   - Synthesizing subject with related learning
   - Applying information to new learning
4. ***Vary work intensity patterns.*** Tutors must be aware of the tutee's ability to maintain concentration. Occasional breaks and/or small talk may make the session more productive. Some techniques are these:
   - Small talk, break
   - Switch to slower, relaxed pace
   - Jokes

Other skills valuable to tutors are probing and reinforcement skills. The tutors should be taught to help tutees arrive at answers rather than to tell them. These skills include the following:

- Probe skills—clarification, reflection, refocusing, prompting, and redirecting—are used to help tutees in their own thinking.
- Reinforcement skills are used to encourage the tutee and to increase incentive. Tutors should be taught to give positive responses.

Incorporate Practice Exercises

Practice exercises may include role playing, brainstorming, and the use of videotapes. Most programs use role playing in tutor training to introduce tutors to the realistic feelings and atmosphere of a tutoring session. This technique can expose tutors to a variety of situations that may arise in a tutoring session and give them practice in alternative strategies for dealing with the situations. The trainer assigns tutor or tutee roles to students and then presents a situation. The role playing is viewed by the instructor and other student tutors. After a timed period of role playing, the trainer and observing students provide feedback. Students should alternate playing both tutor and tutee.

Other areas to consider for tutor training include note-taking skills, rapport building, study skills, test-taking skills, and sensitivity to special needs students. Talking with experienced teachers and content area specialists can provide tips to assist tutors.

Prepare Tutors to Work with Special Needs Students

To serve special needs students well, it is necessary to train tutors to work with special populations. Because the learning styles of special needs students are as diverse as those of other tutees, it is difficult to suggest different tutoring methods to incorporate into a training program. Techniques using individualized approaches tend to be successful with students who need special help.

Peer tutoring techniques using a great deal of repetition of content and emphasizing short, sequential learning steps are especially effective with special needs students. Training tutors to use these techniques should enable them to work more effectively with tutees' diverse needs.

Tutors should be trained to work effectively with any student needing tutoring and to apply the most appropriate methods. Use of only one method or skill will limit their tutoring effectiveness. They can help meet program goals and objectives if they are prepared to meet the diverse needs of tutees.

A Few of the Points Tutors Must Remember

Some of your students will need many practice exercises. Others will need to move on to direct application.

Repetition drills are valuable, but only in helping a person memorize necessary facts, i.e., spelling. Helping a person learn where to check the facts may be more important.

Go back to the previous lesson. The student may have forgotten something, or need to get mentally "resituated." By reviewing, he/she may understand the new problem.

Sometimes it is better not to stay with one student the whole period. Let the student work on his/her own for a while. Later, check to see if he/she is doing well.

Make sure the student fully understands the concepts you've been explaining before going on to another concept.

Never embarrass the student by asking him/her directly to do things he/she might not be able to do. Instead, work on a challenging task together.

Explain the lesson content clearly and simply. If it's too hard, break it down. Explain it, step by step, and ask the student if he/she understands each step. (If so, the student should be able to repeat it in his/her own words to you.)

When working with limited English-proficient students, you must speak clearly.

Keep your sentences short. Avoid long and difficult words.

Plan goals for tutoring.

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Reflection on Reading 2

- Many advantages of peer tutoring have been pointed out. What are some of the risks that are inherent in using peer tutors? How can you, as a teacher, decrease those risks?

- Ask a colleague to work with you to role play a situation that you think could usefully be part of a tutor training session. Work out the situation together. Then take turns playing each role and discussing your reactions. If you must work alone, write out a situation and then record one of the roles on cassette tape. Critique the tape from the (assumed) viewpoint of a person in the other role.

- Consider the points given for tutors to remember. List three additional points you think would be helpful.

"STRUCTURING THE MENTOR ROLE: QUALIFICATIONS, RECRUITMENT, SELECTION, AND REWARDS"
In *Beyond the Myths and Magic of Mentoring: How to Facilitate an Effective Mentoring Program*
by M. Murray, with M. A. Owen, 106-117
San Francisco, CA: Jossey-Bass Publishers, ©1991. Reprinted with permission

The mentor role deserves your most careful attention as it is the linchpin in the mentoring relationship and in the facilitated program. Competence and commitment are the unequivocal characteristics of a successful mentor. Qualifying candidates for the mentor role must build from the foundation of being willing and able to help another person to grow. The types of capabilities and the nature of the commitment will vary with each mentor/protégé relationship.

Having read this far in the book, you probably have some good ideas about using mentors in your development programs. You have also, no doubt, already thought of the many obstacles you may face in implementing your mentoring program. In this chapter, you will find specific guidelines for defining the role of the mentor, for recruiting mentors, for creating the mechanisms for establishing a pool of qualified mentors, and for making the mentoring role work well.

For every guideline suggested here, you can probably find an exception in a mentoring program somewhere. For example, I have talked with people who have had successful peer mentoring relationships and with people whose mentors were younger than themselves. Likewise, there are many examples of bosses who function as mentors to some of their subordinates. That is fine. Perhaps the only unbreakable rule about facilitated mentoring is that the program be designed for maximum flexibility and fulfill the needs of the organization. For clarity and ease of description, the processes described in this chapter will follow the generic facilitated mentoring model. . . .

Qualifications

An individual may be a superb role model, do all of the things a sponsor does, yet not have the skills to perform effectively as a mentor. Several specific skills and attributes necessary to carry out the functions of a mentor have emerged from our experience with the design, implementation, and evaluation of mentoring programs for management-level people. These hallmarks of master mentors (Everitt and Murray-Hicks 1981) are—

- Strong interpersonal skills
- Organizational knowledge
- Exemplary supervisory skills
- Technical competence
- Personal power and charisma
- Status and prestige
- Willingness to be responsible for someone else's growth
- Ability to share credit
- Patience and risk taking

Use the following brief descriptions of the characteristics to help you to recognize the most likely mentor candidates in your organization. Each description is followed by the key element to look for.

Strong interpersonal skills. Mentors enjoy being with people; they like interacting with others. The potential mentor is the animated talker in the middle of a group, not the solitary figure off on the sidelines engrossed in a newspaper. Because the mentor role demands close relationships, the best candidate is one who enjoys working with people more than working alone or working with things.

Of course there are always exceptions An individual may be unusually skillful in a professional or technical way—for example, research methodology—and not have good communication skills. A persistent protégé may be able to extract the desired assistance from such a person. But beware of pairing a passive protégé with a strong, silent type as mentor. One of the two must be capable and willing to initiate contact and work at keeping the relationship going.

- *Look for a person who both talks and listens.*

Knowledge of the organization. The most helpful mentor is one who has intimate knowledge of the vision and long-range goals of the organization. To access this information, the mentor must have an open line to both the formal and informal communication channels within the organization.

Having a mentor who is able to tap into an extensive network of movers and shakers can significantly expand the resources available to the protégé. Knowing where the organization is going (and how quickly or slowly) enables the mentor to assess the reality of the protégé's aspirations. The mentor will know where the opportunities are based on projected growth, direction, and goals of the organization. If the organization is downsizing, the mentor can direct the protégé into appropriate areas, such as a lateral move into a different function.

- *Look for a person with an extensive network of resources.*

Exemplary supervisory skills. The following management skills seem to be essential for competent performance as a mentor:

- *Planning performance*—helping others to set objectives, create action plans, estimate resource requirements, schedule time
- *Appraising performance*—observing another's performance, evaluating it, and determining the appropriate type of feedback
- *Giving feedback and coaching*—providing feedback that clearly reinforces desired performance or coaches to improve performance to agreed standards
- *Modeling*—demonstrating desirable techniques for task performance
- *Delegating*—determining appropriate tasks to be delegated to a person capable of performing those tasks; negotiating agreement on the tasks to be performed, time for completion, authorities to be consulted, and resources to be used

The list could go on. However, these are the basics, the survival skills for supervisors.

At this point you might be thinking, Why are these skills especially important in a mentor? Everyone who supervises should have these skills! Of course they should. However, many people are promoted to supervisory positions because they are the best workers. In all fields—craft, technical, and professional—many people without supervisory experience or skills are assigned to jobs that require overseeing the work of subordinates. Rarely is a person's leadership potential assessed in any systematic way before promotional decisions are made. Furthermore, few people are prepared or trained for the supervisory role. The misconception is that if they can do the work, they can also get it done through others. According to one researcher (Davis 1981, p. 10), "Mentoring/coaching requires very good interpersonal skills such as communication [particularly questioning and listening], motivating, encouraging, delegating, and so forth. These skills are most likely the least developed for a middle or upper manager." This situation is not likely to change in the near future, so it is important to carefully screen mentor candidates for basic supervisory competence. It is not enough to want to be a mentor. One has to have the proven skills.

- *Look for a person who has managed groups of people successfully or who has chaired committees and task forces.*

Technical competence. It may seem obvious that the mentor should be competent in the skill area the protégé wants to develop. However, certain organizations have set up mentoring programs and made matches on the basis of the mentor's position and the protégé's membership in a target group. Little or no thought is given to the skill deficiencies of the protégé and none to the relevant competence of the mentor.

Ideally, the mentor will be skilled and experienced in two or more functions of the organization. The mentor who draws from a broad background can offer a variety of examples and a deep, rich experience to the protégé. In addition, the mentor with extensive experience is less likely to see the protégé as an immediate rival for promotions or other perks.

- *Look for a person who has skills the protégé needs plus skills in at least one other technical or professional area.*

Status and prestige. Status of the mentor may be unimportant when the relationship is invisible to others. But when a program is public and designed to groom people for increased responsibility, the mentors must have prestige and know how to share it with their protégés.

Why should mentors be prestigious? First, only a high-status mentor will know the organization well enough to guide someone else. Second, a basic principle of behavior modeling is that people are likely to emulate someone who is perceived as having prestige. Few people consciously imitate the actions of a person regarded as a bad example. The development process will be easier and more efficient when the mentor is held in high esteem than when he or she is not.

- *Find the person who makes the news and is respected.*

Personal power. Positive regard and respect for others in the organization makes the mentor a powerful magnet of leadership. Sometimes this quality is called charisma. It is easy to recognize those who have it and those who do not. People are quickly attracted to the charismatic leader. It may be part of that mysterious attraction that is often cited as the genesis of informal mentoring relationships. Although the manifestations of personal power may be learned behaviors, these are not skills that can be readily taught.

- *Look for the person whose opinions are sought.*

Willingness to be responsible for someone else's growth. You cannot draft people to be mentors. The tangible and intangible rewards of helping someone else to grow make some people willing and eager to accept such an awesome responsibility. Some managers share my opinion that people are ultimately responsible for their own growth and development; however, the policies and practices of many organizations have taught people that they cannot be responsible for themselves. Self-management is discouraged when employees are told what to do and when to do it, what to learn and when to learn it. It will take many years for traditionally managed organizations to change this system and encourage self-responsibility for growth and development. As an interim step, responsibility for development can be shared by the organization, the individual's boss, the mentor, and the individual.

A mentor who is secure about his or her own competence is likely to be generous with time spent in helping others to grow. It may be an added incentive to remind mentor candidates that it adds to their credentials to be seen as a star maker.

- *Look for a person who initiates coaching contacts with others.*

Ability to share credit. The exceptional mentor demonstrates that there is sufficient credit and recognition for everyone to share. This superstar can step out of the limelight and let the protégé take the bows. Good mentors will neither claim the protégé's work as their own nor attribute their own work to the protégé.

- *Look for a person who talks and behaves teamwork.*

Patience in risky situations. This attribute may be the most important—and the least measurable—of all. Having the patience and courage to let a protégé risk and fail, all the while being there to provide support, takes unusual fortitude. Perhaps the most important function mentors have is creating the opportunities for protégés to prove themselves in risky situations (Collins and Scott 1978). But they must also be prudent about those risks and let protégés develop at their own speed. There is a fine line between knowing when to allow a protégé to muddle through and knowing when to provide help. Mentors who jump in too quickly may be pushing their protégés' development.

- *Look for a person who says, "Give it a try!"*

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It may seem impossible to find all these qualifications in the mentors you are seeking. The best suggestion is to get as much as you can, and expect to help the mentors develop additional skills as they work with the protégés.

Recruitment Strategies

In any discussion of facilitated programs, the first thing people ask about is the source of mentors. Where will they come from? Who will be willing to give the necessary time and energy to work diligently to help someone else to grow? Important reputations and large egos will be on the line. What if things don't work out? What if those who do accept give only lip service to the role without spending quality time with the protégés? Sometimes these questions are not asked aloud, but the issues lurk as potential obstacles to the success of the program.

The people who complain about the dearth of mentors may be looking in the wrong places and at the wrong people. Look around you, not just at the highest levels. To find people throughout the organization who are willing to help others by mentoring, consider the following recruiting strategies.

Using volunteers. Using volunteering as a strategy for recruitment entails having clearly stated criteria. Fortunately, most people know whether they enjoy instructing and coaching. But not everyone possesses the ability to make an objective assessment of his or her own readiness to carry out all the necessary mentoring responsibilities. Use the qualifications described previously in this chapter to develop a list of criteria for your mentor candidates. Add to the list any specific technical or professional skills you will require. [In the box on this page] is a sample call for volunteers.

Using nomination by executives. Another option for recruiting mentors is to have top management and administrative people nominate candidates for the mentor pool. Nominators should use prestated criteria when considering and selecting these nominees.

Desirable Characteristics of Mentors

Everyone is encouraged to develop the skills and competencies to function effectively as a mentor. Mentors are asked to volunteer for the mentor pool. Mentors are expected to have most of the following characteristics:

- Willingness to assume and visibly demonstrate leadership
- People oriented behavior
- Regarded as successful in the Firm
- Willingness to assume responsibility and accountability as a mentor
- Knowledgeable about the Firm's goals, policies, functions, communication channels, training programs, etc.
- Willingness to help set development goals, coach, and give feedback
- Aware of resources available within and outside the Firm
- Committed to the development of staff
- Willingness to share personal experiences relevant to the needs of the participant

SOURCE: Adapted from Everitt and Murray-Hicks, 1981.

At Rooney, Ida, Nolt and Ahern, a small accounting firm where every high-level person is well-known to the others, the managing partner, senior partners, and department heads are asked to provide an initial list of nominees for the mentor pool. The coordinator, who is head of the personnel department, screens the list of nominees along with the names suggested by participants (the title used for protégés) to make the initial matches and to build a pool of available mentors for later additions to the professional staff.

Using nomination by protégés. In the GAO (R. Glazer, interview by author, 1989), the mentoring program is administered by a panel that asks the candidates (protégés) to nominate three people whom they would like to consider as their senior adviser (mentor). When one of the three is matched with a candidate, the other two may be asked to be members of the mentor pool and be considered by other candidates. In this way, the pool of potential mentors is expanded as the number of active relationships grows.

Making It Workable and Rewarding for Mentors

Select the title for the role of mentor. Your choice will be based on how you structure the mentor role and on the organization's culture: in turn, the term you will use will influence how the role is carried out. For example, *exemplar* suggests that the mentor may be expected only to model behaviors for the protégé. The term *coach* implies that the mentor will be involved in specific skills-training activities. Some organizations are comfortable with the term *mentor*, while others think it is too trendy for their own programs. The term must be one that most people in the organization can be comfortable with, particular the mentors themselves.

Describe the responsibilities. Make the description factual and realistic. It is tempting to make the mentoring role sound glamorous, which can raise some unrealistic expectations about the benefits. Include in this description the number of protégés the mentor is expected to work with at any one time. . . . I recommend one mentor to one protégé unless the mentor is extraordinarily skilled and has a lot of surplus time. Specify the type and frequency of reporting that will be required, if any. Include an estimate of the time the mentor may be expected to spend in developmental activities with the protégé.

Structuring the Mentor Role

Advertise. Develop promotional pieces suitable to the communication vehicles available to you to publicize the existence, feature, and benefits of your mentoring program. Soliciting volunteers necessitates spreading the word as widely as possible. Consider word of mouth, daily bulletins, periodic newsletters, union newspapers, management reports, training catalogs, and desk-drop leaflets. Publish the endorsement of the program by high-level administrators or managers.

Make it easy to respond. Prepare a simple form for volunteers or nominators to use. The amount and type of information you require will vary depending on the structure of your program and the size of your organization. You want enough information to make it relatively easy to match the mentor's experience and capabilities with the protégé's developmental needs. Ask for at least this much information:

- Name
- Current location
- Education
- Experience
- Why interested in the mentor role
- Type of mentoring relationship wanted
- Amount of time available for mentoring activities
- Any constraints on location or timing

Screen candidates for readiness. Amend the hallmarks of master mentors at the beginning of this chapter and use it as an initial screening checklist to assess the readiness of the volunteers and nominees for the mentor pool.

Make the match with the protégé. A review of the preliminary development plans of the protégés will reveal the precise experience and skills sought in the mentors. Mentor candidates who have passed the initial screening can be contacted for additional information—skills, experience, abilities, and availability—that is relevant to the needs of a specific person who is seeking a mentor.

Making It Work

Orient mentors to the role. A group orientation session may be most efficient when the program is first established. Later it may be practical to have the coordinator brief the new mentors individually.

Make it matter to the mentors. The rewards you offer will have a major impact on the mentors' motivation. . . . The surest way to cause the mentor to take the role seriously is to tie the mentor's performance to the regular appraisal process. This performance objective can then be negotiated with the mentor's boss and tracked for progress and

feedback. The protégé can be a valuable source of feedback on the quality and timelines of the mentor's performance. Financial rewards may be in the form of bonuses, stock options, or paid time off. Nonfinancial, yet visible and powerful, rewards include trips, featured recognition in publications, certificates, attendance at special educational programs, and tickets for entertainment events. Do you underestimate the power of a gold star!

Maintain records on the mentor pool. If your organization has established a personnel database, use it to keep track of volunteers or nominees. This database can be used later to track the relationship after matches have been made.

Checklist

The potential for your program to succeed can be increased by careful recruitment and selection of mentors. [The following checklist can be used] to jot down specific actions you can take to ensure a good structure. Be realistic and specific in the actions you plan to take.

Checklist for Structuring the Mentor Role and Creating the Mentor Pool

	Action to Take
1. What term will we use for the mentor role?	
2. How will we recruit mentors?	
3. What are the basic characteristics we want mentors to have?	
4. How will we reward mentors?	
5. How will we use promotional material to attract mentors?	
6. How can we make it easy for people to volunteer or respond to the nomination process?	
7. What process will we use to screen the mentor candidates' skills: • general? • relationship specific?	
8. What systems do we have or need to record and maintain the mentor pool?	
9. What will we include in the description of the mentor's role?	
10. How can we ensure that mentors share credit with protégés?	
11. How can we ensure that mentors let protégés take the risks necessary for learning?	
12. How will we orient mentors to the role?	

Reflection on Reading 3

- Consider the people in a workplace with which you are familiar. Make a list of the people you feel would be able to fulfill a mentoring role. If one of your colleagues knows this workplace also, discuss your ideas with him/her.

- Select one of the tasks (topics) in the section, "Making it Workable and Rewarding for Mentors." Outline a plan for carrying out the task in a workplace with which you are familiar.

- What adjustments do you feel need to be made to a program for mentoring new employees in order to make it appropriate for mentoring learners?

"WORKING AS A MENTOR"
Adapted from *The Helping Process Booklet for Mentors* by T. F. Fennimore and S. G. Pritz
Columbus, OH: Center on Education and Training for Employment, 1988 (ED 298 318)

Teachers can arrange educational experiences to promote learners' academic and job development. Mentors have another role to play. We all remember the mentors in our lives—the people who opened up opportunities for us, warned us of pitfalls, advised us on how to negotiate "the system," and encouraged us to continue, even in the face of hardship. They were trusted counselors or guides who made a personal investment in us. We looked to them for guidance.

The mentor learner relationship is a very personal one, and the relationship should be based on personal choice as much as possible. Ideally, mentor learning pairings would not be arranged, but they would choose each other. Assignments or at least suggestions may need to be made in some cases, however, albeit sensitively and carefully.

As you reflect on what you should do as a mentor, remember that you have the opportunity to help the learner realize his or her full potential. Because the workplace literacy instructor also fulfills this role, it is important that you stay in close communication with him/her. You are supporting the instructor in a number of specific ways.

The mentor will need to use a number of skills to promote the learner's development. It is the mentor's responsibility to exercise these skills: listening actively, solving problems, developing motivation, clarifying goals, sharing information, and linking to others and advocacy.

Listening Actively

This is the most important of all skills to master. We've all had the experience of talking to a friend about a problem that we haven't discussed yet with our employer because we know that the friend will simply listen to us. We don't want advice, we don't want to be told about how the other person feels, and we don't want to create anxiety in the other person. We merely want to be understood.

Many people want us to fulfill certain expectations. This is only appropriate and positive. But it is often nice to have someone to talk to who is not expecting something of you.

A mentor can be such a person. A mentor can really hear what the learner says and express an understanding of the learner's problems. A mentor can say, "I've had the same problem," without being inappropriate. In a sense, the mentor has complete freedom to listen and identify.

Solving Problems

Learners may have problems related to their involvement in a workplace literacy program. For example, perhaps the learner's supervisor is not totally supportive of his or her participation in the program.

People in new situations are not accustomed to thinking of many possible alternatives to a problematic situation. Because of a mentor's experience and thinking skill, a solution that seems obvious to the mentor may never occur to the learner.

A useful activity, then, is to engage the learner in a mutual problem solving process. By listening carefully, you can help the learner clarify his or her goals and, therefore, recognize problems. Once a problem is defined, you can help the learner generate a number of ways to respond to the problem. A learner may be unaware of resources with which you are familiar. You can help the learner weigh all the alternatives and make a decision.

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Developing Motivation

Motivation is often considered an innate and stable characteristic of a personality. But a person who is bored and apathetic in one situation or environment may be enthusiastic and outgoing in another situation or environment. So motivation is something that can be increased or decreased. When a person feels it is possible to succeed; when the task is important to the person and others important to the person; when the person hasn't had a prior history of frustration and failure in the environment; when a person finds the accomplishment meaningful and its performance enjoyable; when a person feels that he or she belongs in that environment—all these things and more will motivate the person to succeed in that environment.

Many learners in workplace programs have faced repeated failure in school and they have become discouraged about school-like programs. They think they will never be able to succeed in education and they need a lot of encouragement and praise to overcome this resignation. Some have even given up on ever being able to succeed at anything.

A mentor can develop motivation in a learner by balancing hope with discomfort. A mentor can bolster the learner's confidence that he or she ***can*** succeed and that the learner has the ability and resources to improve. At the same time, you shouldn't hesitate to provide frank feedback (after you have built up a trusting relationship) about the degree to which you see standards being met.

Clarifying Goals

The mentor works with the learner to develop long-range goals. The mentor may help the learner consider possibilities that the learner never imagined. Simply by watching the mentor, the learner may come to think "My mentor made it. I'm like my mentor in a lot of ways, so I can make it too!" When learners see others like themselves succeeding, they begin to see that they can succeed, and they are motivated to become successful.

A mentor can help the learner become aware of what unique and valuable contributions the learner has to make. Sometimes a mentor can help the learner clarify life goals by relating his/her own struggle to establish identity and achieve goals. Emphasize the role that education has played in the enrichment of your life and achievement of your goals. Once the mentor has helped the student think about the student's long-term goals, the mentor can guide the student to break these goals down into short-term, manageable, weekly activities, in close coordination with the instructor, whose efforts are being supplemented. Help the student become more goal-directed by questioning the student: "Is what you are doing now going to help you realize your long-term goals? What will you need to plan for in the future to achieve all that you want to achieve?"

Sharing Information

Consistent with its traditional meaning, a mentor is someone who advises and supports a person in advancing in a career. The mentor carries out this part of the role by helping the learner negotiate the system by explaining it—the pitfalls to be avoided and the short-cuts to be pursued. The mentor may be able to expose the learner to a broader view of the workplace and advise the student on what is needed to advance.

A learner anxious about the future will be less so on hearing of the ups and downs of the mentor's life and how the mentor has made it through the rough spots. This will help the learner see how opportunities can be seized and problems coped with effectively.

Telling a learner about your own life is an indirect way to suggest more strategies than the student may use now. The mentor can be greatly influential in opening up doors for a learner, helping the learner make informed and rational choices, and guiding constructive courses of action. The mentor can share information with the learner to help him or her make decisions that effectively address problems or help the learner find the people and resources to acquire this information.

Linking to Others and Advocacy

The mentor can link the learner to resources in the community that he or she may be aware of. Perhaps the mentor knows people who can help the learner gain access to services or pursue opportunities for postsecondary education.

The mentor is in a relationship with the learner that gives the mentor unique insights into the learner's situation. Because the mentor does not have to exercise any authority over the learner, the learner may feel more free to open up to the mentor than to others. The mentor may then be the first to know of an emerging problem. The mentor may also be the only person who has heard and understood all aspects of the learner's situation. This puts the mentor in a special position to advocate for the student—to speak up for the learner when it would help to let others know the learner's circumstances.

Summary

Mentors are in a special position. They have a chance to relate to learners in ways others in the workplace usually don't. The mentor can provide sound advice, but doesn't have to exert control. The mentor can relate to the learner informally and personally and so help the learner navigate in the work environment.

Some Activities for the Mentor

Here are some suggestions that can be made to potential mentors for making the most of their role:

- Tell the learner about yourself and your learning experiences. Talk to the learner about your successes and troubles in school. Tell the learner how education has helped you.
- Offer support for educational success. You might be able to tutor the student and/or help with missed class work. Encourage regular attendance. Provide tips on study skills. Help the learner plan time to study.
- As possible, set up opportunities for the learner to try new skills in "safe" environments.
- Develop a full understanding of why the learner has been having problems functioning on the job. Discuss all the factors that seem to be related.
- Explore other aspects of the learner's life, but only as suitable to the work relationship and to your professional expertise. If you discover problems that seem too "big" or uncomfortable for you (sexual harassment, drug abuse), encourage the learner to seek the assistance provided in your workplace. Naturally, these matters are to be kept in strictest confidence. It is up to the learner to act on decisions for which you may have provided advice or a listening ear. However, in some companies and in some states, the mentor may be obligated under company policy or law to report situations. The learner should be made aware of the mentor's responsibilities in this regard.
- Reinforce the Workplace Development Plan (WDP) to clarify the learner's goals. Aid the learner in developing options. Be aware of feedback from the learner that indicates that the WDP should be modified. As you increase your understanding of the learner, it is natural that plans for the learner will need to be changed. Discuss this with the instructor also.
- Take your learner to your work department or area to expose him or her to your job.
- Serve as a positive role model for the learner.
- Most crucial of all, BUILD SELF-ESTEEM!

"INVITING/DISINVITING SIGNALS: VERBAL COMMENTS, PERSONAL BEHAVIORS"
Adapted from *Inviting School Success: A Self-Concept Approach to Teaching and Learning*, 2nd ed., by W. W. Purkey and J. M. Novak
Belmont, CA: Wadsworth Publishing Co., © 1984. Reprinted with permission.

Mentors and tutors are working to reinforce learners. Comments and behaviors that "invite" can make their job easier, while "disinviting" comments and behaviors can (and do!) slip out and hinder progress. Highlighting some of these can help everyone focus on "inviting."

Inviting Comments	Disinviting Comments
Good morning.	What Mary is trying to say is . . .
Thanks very much.	Use your head.
Congratulations.	It won't work.
Let's talk it over.	You'll have to call back.
How can I help?	You can't do that.
Tell me about it.	I don't care what you do.
I understand.	Not bad, for a woman.
I'm glad you came by.	Don't be so stupid.
I like that idea!	Who do you think you are?
I think you can.	You can't be that dumb.
Welcome.	Who's calling?
I like what you did.	You should not feel that way.
Welcome back.	You ought to know better.
That's even better.	You must do as I say.
I've been thinking about you.	How could you?
How are things going?	That's a childish viewpoint.
How are you?	That is dead wrong.
I'd like your opinion.	Hi, Chubby.
Happy holiday!	You goofed.
What do you think?	That's stupid.
Let's have lunch.	So what?
What can I do for you?	Because I said so, that's why.
Of course I have time.	What, you again?
That's OK.	Forget it.
I am impressed!	You'll never make it.
Yes.	I know you're not that stupid.
Please come in.	What's your excuse this time?
I think you can do it.	
Please tell me more.	
May I help you?	
Let's do it together.	
Come back soon!	

Reflection on Reading 4

- Identify someone in your life who has been (or is) a mentor to you, or who has carried out some of the functions of a mentor for you. Make a list of all the words that memory or visualization evokes for you (e.g., supportive, coach).

- A mentor outside the workplace could provide personal support to a learner. What advantages are there for the mentor who is ***in*** the learner's workplace? What advantages are there for the learner? for the instructor?

- Why should the mentor be in close contact with the instructor? How can this communication assist the mentor? What pitfalls might there be otherwise?

Facilitate Tutoring/Mentoring in the Workplace

- Using your knowledge of the workplace, develop a rationale for using co-peer and near-peer groupings. Provide evidence of the validity of each approach. Write down your findings.

- ***If you are currently teaching:*** Using the workplace setting in which you are teaching, complete the checklist from Reading 3, which is repeated on the next page for your convenience. You can choose to complete it for either mentoring or tutoring. (If you choose tutoring, change the word *mentor* to *tutor* and delete question 10.)

  If you are* not *currently teaching: Complete the checklist for an administrative unit of your educational institution, as it is also a workplace; or you may ask a colleague who is assigned to a workplace to allow you to work with him or her in completing the form.

Checklist for Structuring the Mentor Role and Creating the Mentor Pool

	Action to Take
1. What term will we use for the mentor role?	
2. How will we recruit mentors?	
3. What are the basic characteristics we want mentors to have?	
4. How will we reward mentors?	
5. How will we use promotional material to attract mentors?	
6. How can we make it easy for people to volunteer or respond to the nomination process?	
7. What process will we use to screen the mentor candidates' skills: • general? • relationship specific?	
8. What systems do we have or need to record and maintain the mentor pool?	
9. What will we include in the description of the mentor's role?	
10. How can we ensure that mentors share credit with protégés?	
11. How can we ensure that mentors let protégés take the risks necessary for learning?	
12. How will we orient mentors to the role?	

TOPIC: Facilitate Tutoring/Mentoring in the Workplace

Evaluation Guidelines

Directions: Check your competency with the following criteria:

Learner Self-Check		Review Checklist
Did you—		Did the learner—
☐	1. Define the role to be played by tutors/mentors?	☐
☐	2. Select recruitment and promotional strategies designed to appeal to potential tutors/mentors and facilitate their involvement?	☐
☐	3. Specify the characteristics that tutors/mentors should possess?	☐
☐	4. Identify rewards that would be valued by those serving as tutors/ mentors?	☐
☐	5. Develop criteria for selecting qualified tutors/mentors?	☐
☐	6. Establish a record-keeping system to support the tutoring/ mentoring program?	☐
☐	7. Design an orientation and training program to develop in tutors/ mentors the qualities needed to be successful?	☐

Learner: _____

Reviewer: _____

Level of Performance: If the evaluation results indicate a need for further competency development—or if the learner wishes to pursue the topics covered in further breadth or depth—please refer to the supplementary resources described in the Annotated Bibliography, which follows.

Bozarjian, B. et al. "Workplace Education Mentoring Pilot Project." Final Report. Boston, MA: Massachusetts Department of Education, September 1993. (ED 363 740)

This report describes a mentoring pilot project developed by the Massachusetts Department of Education to meet the staff training and development needs of workplace educators in a National Workplace Literacy Program. The mentoring concept was chosen because one-on-one relationships between experienced and less experienced workplace educators were considered feasible and cost-effective.

This report consists of two sections. In the first section, the mentoring pilot project is defined as part of the larger staff training and development for the literacy programs in Massachusetts. The first section also provides a chronology of the different stages of the mentoring pilot project from its inception through design and implementation to evaluation.

The second section is the "Participant Notebook" that was given to mentors and mentees during their joint training prior to their 20-hour relationship. The notebook includes the training plan for the orientation of mentors and mentees and all training materials, such as lesson plans, learning activities, and case studies. Sample goal-setting forms and invitations to the reunion and evaluation session are included, along with a list of six resource persons.

Daloz, L. A. P., and Edelson, P. J. "Leadership and Staff Development: A Mentorship Model." *New Directions for Adult and Continuing Education* No. 56 (1992): 29-37.

A mentorship model to provide leadership for staff development has five key steps: engender trust, understand learner movement in a development framework, introduce conflict and encourage learner voice, emphasize positive movement, and attend to the relationship.

Dueck, G. *Picture Peer Partner Learning: Students Learning from and with Each Other.* Instructional Strategies Series No. 10. Saskatoon: Saskatchewan Professional Development Unit, 1993. (ED 360 308)

Although designed as a professional development package for K-12 teachers, the information in this publication can be easily transferred to other settings. Its purpose is to prepare professional educators for using peer partner learning. The following information on peer partner learning is included: a definition, a rationale for its use, preparing for it, implementing it, and the teacher's role during its use. A list of resources concludes the publication.

Goldgrab, S. "Peer Tutoring in the Classroom." In *Voices from the Literacy Field*, edited by J. A. Draper and M. C. Taylor. Toronto, Ontario: Culture Concepts, 1992. (ED 355 343)

This chapter provides a case study of one literacy program's experiences in implementing peer tutoring in the classroom. Participants included retired citizens, laid-off miners, and unemployed youth and the issues of promoting peer tutoring and the changing roles of teacher and student were dealt with. Student suggestions of what it takes to make peer tutoring successful are included. A series of questions that can be used individually for reflection or as the basis for a group discussion conclude the chapter.

McLachlan, C. "Supporting and Developing Adult Learning. Peer Tutoring: An Approach to Learning for Adult Literacy Students." *Adults Learning* v2/n4 (December 1990): 110-112.

This article summarizes 10 years of experience in using peer tutoring in a British adult literacy center. In this context, the tutors were defined as "peers" because like the learners, they were adults. The article includes perspectives about peer tutoring from both learners and tutors.

Murray, M., with Owen, M. A. *Beyond the Myths and Magic of Mentoring: How to Facilitate an Effective Mentoring Program*. San Francisco, CA: Jossey-Bass Publishers, 1991.

The author has compiled current research and information on successful experiences with mentoring. Seven case study examples provide concrete examples of the effectiveness of mentoring programs. Various models of facilitated mentoring are illustrated and specific guidelines for assessing the need for such a program in an organization and for designing and implementing it are provided. All the components of a viable facilitated mentoring program are described. The intended audiences are planners, managers, administrators, and human-resource professionals in any type of industrial, government, health care, nonprofit, or educational organization, small or large, individuals who are or want to be mentors or protégés.

Nore, G. "Peer Tutoring in Vocational Literacy Skills." *TESL Canada Journal* v7/n2 (March 1990): 66-74.

Presents an overview of the first year's operation of a Learning in the Workplace project that intended to develop industry-specific training materials and model programs that can be used to help employees develop the literacy skills needed in the changing workplace. The effectiveness of a peer-tutoring component is discussed.

Schneider, H. M. "The Peer Approach to Adult Learning." *Equity and Excellence* v24/n3 (Fall 1989): 63-66.

The peer approach to teaching writing to adults is described in this article. The author weaves theoretical information about peer editing and adult (particularly women's) development into her experiences with this approach at the University of Massachusetts. The benefits of using the peer approach with adult learners are emphasized.

Whitman, N. A. *Peer Teaching: To Teach Is to Learn Twice*. ASHE-ERIC Higher Education Report No. 4. Washington, DC: ERIC Clearinghouse on Higher Education, George Washington University and Association for the Study of Higher Education, 1988. (ED 305 016)

This report describes efforts in higher education to use students as teachers, thereby providing them with the benefits traditionally enjoyed by teachers. It covers the psychological basis for the benefits of peer teaching and describes the five types of peer teaching used in higher education. Strategies for implementing peer teaching are also included.